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APPARATUS AND SUPPLIES

FOR

Chemical and Biological Laboratories

1904

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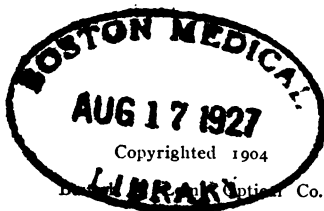


BAUSCH & LOMB OPTICAL CO.

ROCHESTER, N. Y., U. S. A.

New York, Boston, Chicago, U. S. A.
Frankfurt-on-Main, Germany

CATALOG F



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INFORMATION FOR THE PURCHASER



N PRESENTING this, our second catalogue of apparatus and supplies for chemical and biological laboratories, we are pleased to be able to announce a great advance in the completion of our facilities for the manufacture and sale of apparatus.

Desiring to place ourselves in the best possible position to serve our patrons with the highest type of apparatus of uniform quality, and at as low cost as is consistent with it, a glass factory has been erected in the Thueringen Forest, Germany, the center of the European chemical glass industry, which is operated under the direction of the

Bausch & Lomb Optical Company, G.m.b.H., Frankfurt a/M., Germany.

a company organized to market the products of the Bausch & Lomb Optical Company, Rochester, N. Y., in Europe, and to act as distributors for the product of their factory and for other goods made by other European manufacturers to this and other foreign markets.

The factory, which has been built after American plans and employing American methods, makes that class of chemical glassware which is "blown before the lamp," but it contracts for all other glassware, giving close, personal attention to every detail of manufacture to insure correct form and quality. The factory is under the management of one thoroughly familiar with the manufacture of chemical glassware, and the workmen employed are the very best that it is possible to procure.

Owing to the composition of the materials used, the resulting articles possess an unusual degree of resistance to the action of reagents. We have submitted specimens to the Imperial Commission and to leading chemists of the United States, and have these reports on file, which show that the glass is adapted for the very best laboratory work, and we shall be pleased to send copies of these reports to those interested. To distinguish this glass from other glassware on the market, we will stamp Beakers, Flasks and Evaporating Dishes, in the glass, and Test Tubes on the cases in which they are packed, with the trademark BALOC, a word composed of the initials of our Company.

The graduated ware receives our most careful attention. Not alone has delicate graduating apparatus been employed to insure great accuracy, but special machinery has been developed to engrave the figures neatly and to make them easily legible. Specimens of these products, also, have been submitted to the Imperial Commission and we have on file reports, of which copies will be sent on request, showing but slight errors in this ware. For general use, where extreme accuracy is not essential, we recommend our burettes, pipettes, cylinders, etc., with "half way around" graduations. These we consider a great improvement over the short line graduations, as they facilitate quick and accurate reading. For the most accurate use we offer our special line of graduated ware, both weighed and measured, in which the graduations run entirely around the circumference of the article, and we refer, for a more detailed description of these goods, to the body of the catalogue. For advanced analytical work these all-around graduations should be employed, as they are as near perfect (without

error) as it is possible to make them. A certificate of accuracy accompanies each instrument.

The Bausch & Lomb Optical Company, G.m.b.H., No. 81 Kaiserstrasse, Frankfurt a/M., Germany, is our European correspondent and offers a most convenient means for the handling of our orders and those of American purchasers who desire to import direct from Europe. We place this office and its staff at the disposal of our patrons, and shall be pleased to have them make that office their headquarters during a sojourn abroad, a place where their mail will be directed, or where they may gather goods from different parts of the Continent for final shipment. The business is officered by men speaking the English, German and French languages, and who are thoroughly acquainted with the requirements of American laboratories, as well as with every detail of the European market, and who, in addition to their ability to buy any make of apparatus from any maker, can supply a large part of the chemical glassware from their own factory, thus guaranteeing quality and prompt delivery. Purchasers desiring small importations of special apparatus can place their orders with us, or with them, and have them forwarded with our large shipments, thus saving time and expense. Frankfurt being a central seaport, all purchases from the various makers are collected there and repacked when desired, in order to save transportation charges, which are rated by the steamship companies according to the space the articles occupy, regardless of weight and value.

All of our shipments come by the fastest mail steamers, insuring the speediest deliveries possible.

For the accommodation of our customers we carry in stock every article listed in this catalogue, and can furnish same at short notice at the prices listed herein, subject to discount to institutions purchasing in quantity.

To institutions entitled to import duty free, we offer a printed bidding list, based on this catalogue, where the quantities desired can be set down and the list returned to us for pricing. Copies of this list will be sent free on application.

In conclusion, we wish to solicit the orders for laboratory apparatus of those who desire the best at the least cost, but particularly the best. The best is the cheapest in the long run and our specialty is high quality. Our prices are calculated to be the same whether bid is asked or not.

While this is a comparatively new branch of our business, our connections are world wide, and the same liberal treatment of our patrons, together with the furnishing of superior goods at reasonable prices, which has built up the microscope, photographic and lens departments of our business until they are the largest of their kind in the world, has already won favorable consideration for us in this addition to our ability to serve our patrons.

We are always glad to estimate on prospective orders and to submit samples to demonstrate the quality of our wares when desired.

BAUSCH & LOMB OPTICAL COMPANY.

Rochester, N. Y., March, 1904.

ELECTROTYPES. We will be pleased to loan Electrotypes of any articles illustrated in our catalog to authors or others for the illustration of text books, periodicals, etc.

TERMS

Give full address and explicit shipping directions in all cases. In the absence of the latter we will use our judgment to secure the lowest rate of transportation.

To avoid delay, the full catalogue designation of each article should be given. Be especially careful to mention the letter or figure denoting the *size* or *style* desired.

When cash accompanies order and goods can be sent best by mail, add amount of postage to remittance; otherwise goods will be sent by express at the purchaser's cost.

Goods sent by mail are at purchaser's risk.

Goods will be sent by express C. O. D. only when amounting to more than \$5.00; purchaser to pay return charges. One-fourth of total amount, or proper references, should accompany the order.

All goods are packed with utmost care by experienced packers and in such a manner that they should arrive safely, but unless we have orders to insure them, our responsibility ceases with their delivery, in good order, to the carrier.

Fragile goods will be insured against breakage, if we are requested to do so when the order is placed, the fee for this insurance being three per cent (3%) of the net amount of the invoice.

Prices will be subject to fluctuations of the market without previous notice.

We make no charge for packing or packing cases.

BAUSCH & LOMB OPTICAL COMPANY'S CATALOGS

In addition to this catalogue of Laboratory Apparatus and Supplies we issue a number of other catalogues, any of which will be mailed on request to those interested.

A Microscopes and Accessories

B Microtomes and Apparatus for Microtomy

C Photomicrographic Apparatus

D Projection Lanterns, Accessories, and Lantern Slides

E Bacteriological Apparatus

G Chemicals and Reagents

H Photographic Lenses, Shutters, and Accessories

Bausch & Lomb-Zeiss Stereo Binocular Field Glasses

Bausch & Lomb Prism Binocular Field Glasses

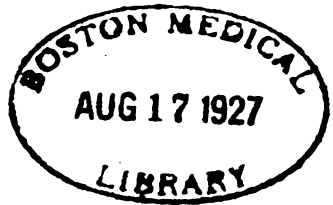
Centrifugal Blood and Urine Analysis

Bausch & Lomb Plastigmat Lens

Bausch & Lomb News.—A periodical of information about the Bausch & Lomb Optical Company's products.



**Manufactory of the
BAUSCH & LOMB OPTICAL CO:
Rochester, N. Y.
1904**



12002



12000



12004



12006



12008

12000. **Acetometer, Otto's.** For determining the percentage of acetic acid in vinegar; on wooden base. Each \$0.60

12002. **Acid Basins.** Of porcelain.

Diameter, mm.	115	130	160
Each	.35	.50	.60

12004. **Acid Basins.** Of porcelain.

Diameter, mm.	115	130	155
Each	.85	1.10	1.40

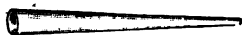
Acid Bottles. See BOTTLES, COBALT.

12006. **Acid Pitchers.** Of stoneware.

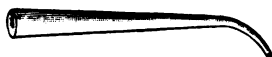
Capacity, cc.	500	1000	2000	4000
Each	.20	.25	.30	.50

12008. **Acid Pots.** Of stoneware.

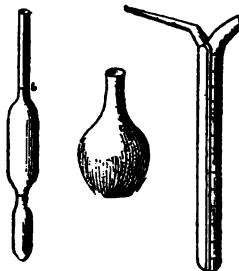
Capacity, liters	8	16	24	30	40
Each	.70	1.20	1.70	2.00	2.50



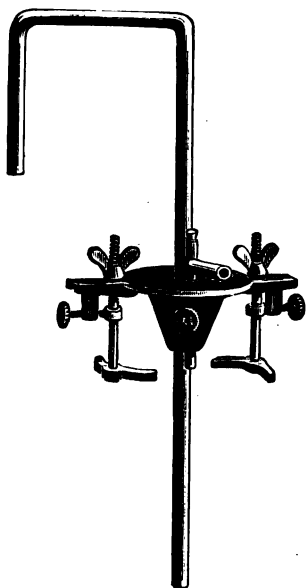
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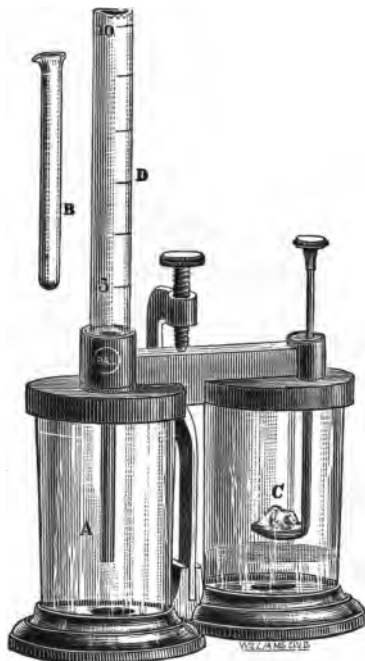
12018



12012



12010



12014, 12016

12010. Acid Pump. For drawing acids, ammonia, or other liquids from large containers. Gives continuous flow and may be checked instantly. **Each \$4.50**

12012. Acidimeter, Gall's. For determining the quantity of acid in wine. **Each \$2.00**

12014. Acidimeter, Twitchell's. For estimating the amount of acid in vinegar. **Each \$15.00**

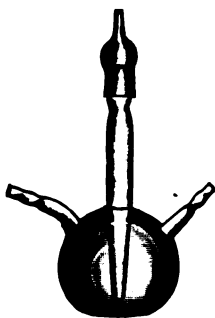
12016. Acidimeter, Twitchell's. For estimating the amount of acid in wine. **Each \$15.00**

12018. Adapters. Curved; heavy glass; for connecting retorts with receivers.

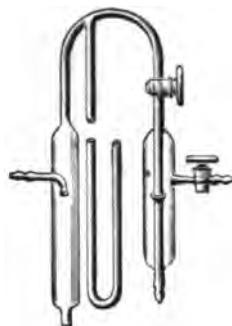
Length, mm.	130	150	200	250
Diameter, mm.	25	40	50	60
Each	.20	.25	.30	.40



12022



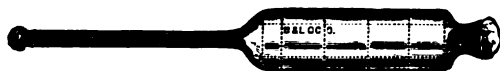
12024



12030



12028



12026

12020. **Adapters. Straight.** (See illustration, page 2.)

Length, mm.	130	150	200	250
Diameter, mm.	25	40	50	60
Each	.20	.25	.30	.40

12022. **Aeroscope, Hesse's.** For quantitative examination of air. Consists of a glass cylinder, for the culture medium, closed at one end with a rubber cap and connected at the other with a series of flasks for aspirating a known quantity of air into the cylinder.

Each \$18.00

12024. **Aeroscope, Miquel's.** For collecting bacteria from air by aspiration through a liquid medium. Made of glass. The neck extends into the flask and is covered by a cap ground on. Capacity, 150 cc.

Each \$1.10

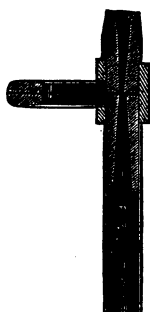
12026. **Aeroscope, Sedgwick-Tucker's.** For collecting bacteria from a measured quantity of air by filtering through soluble media. Consists of a glass cylinder, graduated into squares for counting, with a tube for holding the filtering material. Complete with funnel.

Each \$1.75

12028. **Aeroscope, Straus-Wurtz's.** For collecting bacteria from air by aspiration through water or gelatine. Made of glass. Each \$1.10

Air Baths. See DRYING OVENS.

12030. **Air Pump, Arzberger-Zulkowsky's.** With two stop cocks; mounted on polished board. Each \$4.25



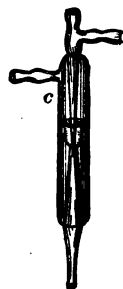
12034



12042



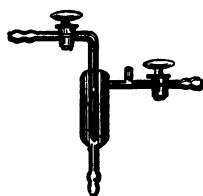
12046



12048



12036 A



12040



12036 B

12032. Air Pump, Arzberger-Zulkowsky's. Glass parts only. Each \$3.40

12034. Air Pump, Chapman's. Made of brass and operated under ordinary water pressure. A very powerful pump.

Numbers	1	2	3
Each	1.50	1.75	2.00

12036. Air Pump, Chapman's, Couplings for. When ordering state size of pump for which coupling is desired.

A For threaded faucet.

Each \$0.35

B For smooth faucet.

Each \$0.55

12038. Air Pump, Fisher's. Made of glass and used with water pressure for rapid filtration. Without stop cocks.

Each \$0.90

12040. Air Pump, Fisher's. Same as No. 12038, but with two stop cocks.

Each \$2.40

12042. Air Pump, Geissler's. Of glass.

Each \$0.60

12044. Air Pumps, Mercurial. Any style imported or made to order.

12046. Air Pump, Muencke's. Of glass; with one suction tube.

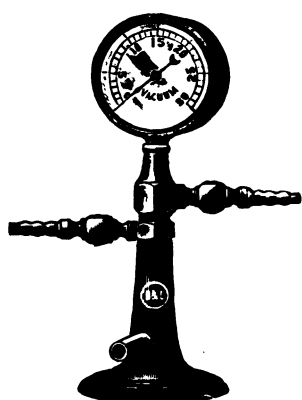
Each \$1.15

12048. Air Pump, Muencke's. With two suction tubes.

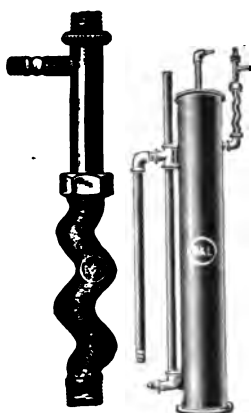
Each \$1.30

12050. Air Pump, Richard's. Made of brass and used with water pressure only. Very powerful. (See illustration, page 5.)

Sizes	Small	Large
Each	1.20	1.75



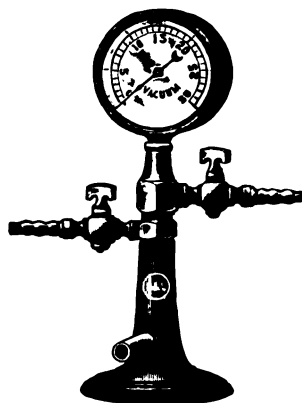
12056



12050



12054



12060



12064

12052. Air Pump, Richard's, Couplings for. When ordering state size of pump for which coupling is desired.

A For threaded faucet.

Each \$0.35

B For smooth faucet.

Each \$0.55

12054. Air Pump, Richard's. Large size; with blast attachment. Complete.

Each \$7.50

12056. Air Pump. Brass; on base; with vacuum gauge.

Each \$8.25

12058. Air Pump. Same as No. 12056, but without gauge.

Each \$4.50

12060. Air Pump. Same as No. 12056, and with stop cocks at water and air connections.

Each \$10.00

12062. Air Pump. Same as No. 12060, but without gauge.

Each \$6.00

12064. Air Pump. For general laboratory use. Made of brass, with mahogany base. The pump is 200 mm. by 30 mm.; the plate is 150 mm. diameter.

Each \$15.00

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



12066



12068



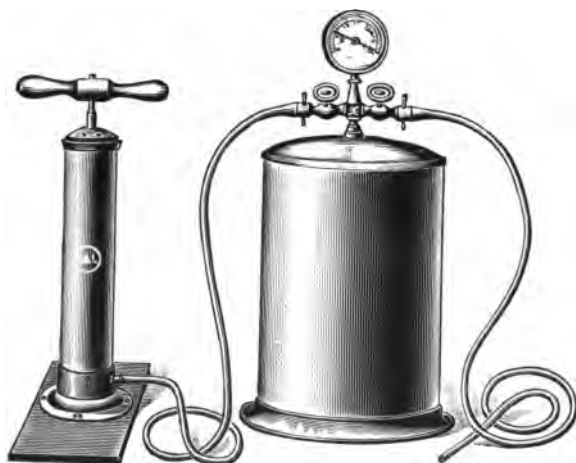
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12074



12076



12078

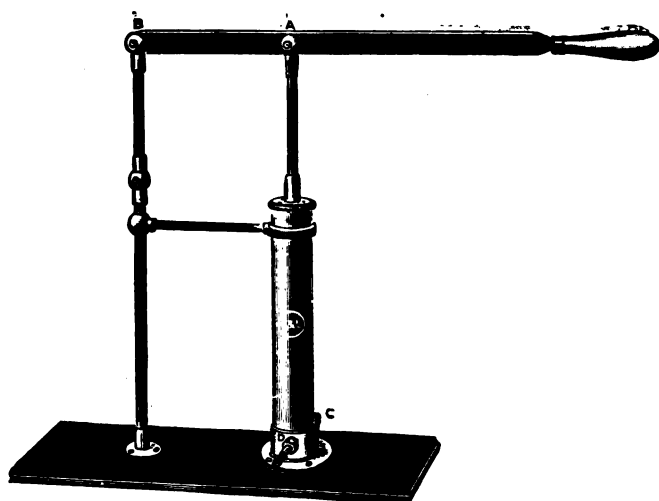
12066. Air Pump, Pressure. Made of heavy material, highly polished and nickel plated. Has metal valve and is mounted on oak base. Chamber, 400 x 55 mm.; height, 540 mm. **Each \$6.00**

12068. Air Pump, Pressure. Same as No. 12066 but has coupling nipple attachment for tubing. Base and handle have ebony finish. **Each \$6.50**



12080

- 12070. Air Pump, Vacuum and Pressure.** Same as No. 12066 but with two valves and two nipples for inlet and outlet of air. **Each \$8.75**
- 12072. Air Pump, Compressed Air and Vacuum.** Made of japanned zinc with polished and nickeled brass connections. Used with water pressure. With fixed pump and air connections. **Each \$10.50**
- 12074. Air Pump, Compressed Air and Vacuum.** With adjustable pump and connections. (See illustration, page 6.) **Each \$15.00**
- 12076. Air Pump, Compressed Air and Vacuum.** With adjustable pump and connections, and vacuum gauge with silvered scale. (See illustration, page 6.) **Each \$24.50**
- 12078. Air Pump.** With compressed air receiver, 325 x 200 mm., tested to 50 kilos hydraulic pressure and warranted to stand the maximum pressure of 25 kilos. The pump chamber is 260 mm. long and 30 mm. diameter. Both pump and receiver are nickel plated. Complete with pressure gauge and 240 cm. of silk covered rubber tubing. (See illustration, page 6.) **Each \$23.75**
- 12080. Air Pump.** With compressed air receiver, 550 x 250 mm., having two exhaust valves and two tubes to connect with spray tubes. Tested to 50 kilos hydraulic pressure and warranted to stand the maximum pressure of 25 kilos. The pump chamber is 400 mm. long by 50 mm. diameter. Pump and receiver are nickel plated. Complete with pressure gauge, 120 cm. of lined rubber tubing and 240 cm. of silk covered rubber tubing. **Each \$29.25**



12082



12086



12090

12082. Air Pump, Lever Handle. For pressure only. This pump is more powerful than the ordinary T handle pump and a greater pressure can be had with ease. It is highly polished and nickel plated,



12092

and mounted on an oak base. Total height 560 mm.; pump chamber, 300 x 50 mm.; handle 675 mm. long. **Each \$11.00**

12084. Air Pump, Lever Handle. Same as No. 12082. For vacuum and pressure. **Each \$13.25**

12086. Air Pump, Rotary. For pressure only. The pump chamber, 175 x 50 mm., is made of brass, polished and nickel plated. It has metal valves. The base, column and wheel are of iron, neatly japanned and ornamented in bronze. Height, 100 cm.; weight, 45 kilos. (See illustration, page 8.) **Each \$36.25**

12088. Air Pump, Rotary. Same as No. 12086. For vacuum and pressure. **Each \$38.50**

12090. Air Pump, Rotary. With compressed air receiver. The base, column, and wheel are of iron, japanned black and ornamented in bronze. The receiver, 800 x 225 mm., and pump, 175 x 50 mm., are of brass, highly polished and nickel plated. The receiver is tested to 50 kilos hydraulic pressure and warranted to be air tight and stand the maximum pressure of 25 kilos. It has two high pressure exhaust valves and one inlet valve. Total height 105 cm.; weight 56 kilos. Complete with pressure gauge and 300 cm. of silk covered tubing. (See illustration, page 8.) **Each \$77.00**

12092. Air Pump Plates. On tripod base, with heavy plate glass top and two-way stop cock. Without receiver.

Diameter, mm.	200	250	300
Each	8.00	10.00	12.00

12094. Air Pump Plates. With receiver.

Diameter	200	250	300
Each	9.50	12.00	14.50

Alcoholometers. See HYDROMETERS, ALCOHOL.

Alembics. See FLASKS, DISTILLING.



12100



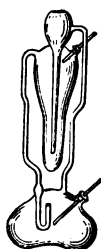
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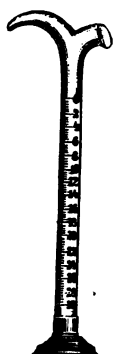
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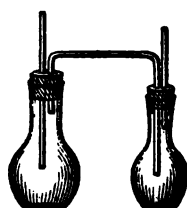
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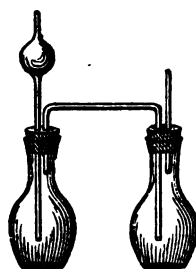
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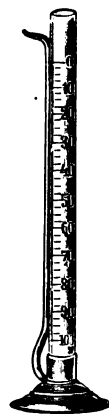
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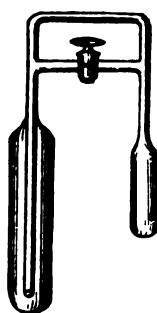


12108

12096. Alkalimeter. Berzelius.	Each	\$0.60
12098. Alkalimeter. Bink's. Capacity 30 cc.; graduated to 1/10 cc. (Other sizes see BINK'S BURETTES.)	Each	\$1.00
12100. Alkalimeter. Bunsen's.	Each	\$1.00
12102. Alkalimeter. Fresenius'.	Each	\$2.15
12104. Alkalimeter. Fresenius-Will's.	Each	\$0.40
12106. Alkalimeter. Fresenius-Will's. Improved form.	Each	\$0.45
12108. Alkalimeter. Gay-Lussac's. Capacity 50 cc.; graduated to 1/10 cc.	Each	\$1.10
12110. Alkalimeter. Geissler's. Style A.	Each	\$1.25
12112. Alkalimeter. Geissler's. For 1 acid.	Each	\$1.35
12114. Alkalimeter. Geissler's. For 2 acids.	Each	\$1.50
12116. Alkalimeter. Geissler-Erdmann's. (See illustration, page 11.)	Each	\$1.50



12120



12136



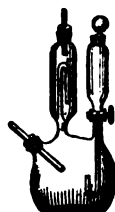
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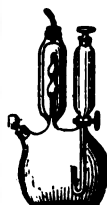
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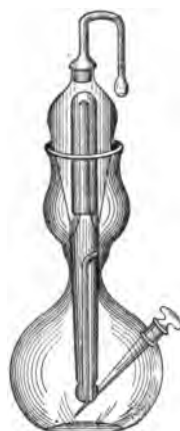
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12134



12130



12126



12116



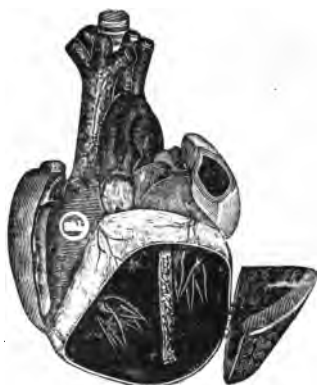
12132

12118. Alkalimeter.	Geissler's. Style B.	Each	\$1.60
12120. Alkalimeter.	Kipp's.	Each	\$1.60
12122. Alkalimeter.	Mohr's.	Each	\$0.50
12124. Alkalimeter.	Mohr's. New model.	Each	\$2.75
12126. Alkalimeter.	Mohr's. Latest model.	Each	\$2.25
12128. Alkalimeter.	Rohrbeck's.	Each	\$1.60
12130. Alkalimeter.	Schroedter's.	Each	\$1.50
12132. Alkalimeter.	Schroedter's. With tube.	Each	\$1.60
12134. Alkalimeter.	Ure's. With glass stopper. Capacity 100 grams, graduated to 1 gram.	Each	\$1.00
12136. Ammonia Condensation Apparatus.	Mueller's. For demonstrating the principle of Carre's ice machine.	Each	\$3.00

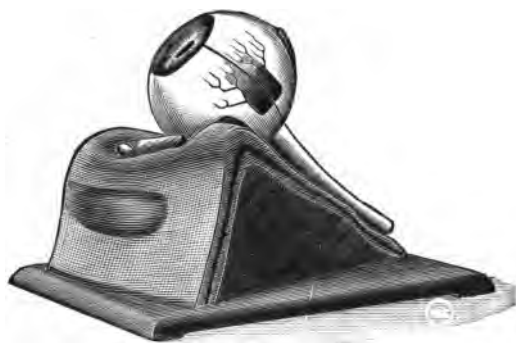
New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



12138



12142



12140

Anatomical Models. For class demonstration in physiology and elementary anatomy. Each is arranged so that it may be taken apart to show the important parts. The material used in construction is light and durable. An explanatory key is furnished.

- 12138. Anatomical Models.** Human Ear, 390 mm. in diameter. **Each \$10.00**
- 12140. Anatomical Models.** Human Eye, enlarged six diameters. **Each \$10.00**
- 12142. Anatomical Models.** Human Heart, enlarged two diameters. **Each \$7.50**
- 12144. Animal Holder.** For mice. A cylindrical jar with nickel plated cover having woven wire center. The cover is held on by a catch and can be released only by turning it around to the proper point. No extra weights are required. Has ground label for writing data. Diameter 150 mm.; height 200 mm. **Each \$2.00**
- 12146. Animal Holder.** For inoculating mice. Made entirely of metal. The conical wire cage is detachable and may be renewed. Has adjustable clamp for holding the tail of the animal. **Each \$1.25**
- 12148. Animal Holder, Kitasato's Autopsic.** For mice. Nickel plated metal plate with spring clamp for fastening the animal by the skin of the neck, and a spring clip for holding the tail or leg. The plate may be supported in any position by ball and socket joint on the pillar. (See illustration, page 13.) **Each \$4.00**



12144



12152



12148



12154



12146

12150. Animal Holder, Latapie's. For rabbits, guinea pigs, pigeons, etc. Consists of a flat table with clamps and spring catches. Imported to order only. Price quoted on request.

12152. Animal Holder, Vaughan's. For inoculated rabbits, guinea pigs, etc. Has metal frame work and woven wire sides and lid. The bottom slopes slightly toward the center to a hole, which facilitates cleaning. Is collapsible for compactness in sterilization and storage, the sides, top, bottom, and legs being in separate pieces. The lid is hinged. Height (not including legs) 300 mm.; total height, 420 mm.; length, 500 mm.; width, 380 mm. **Each \$8.50**

12154. Animal Holder, Voges'. For guinea pigs. Made of zinc.

Size of holder, mm.	180 x 60	200 x 80
Size of slot, mm.	100 x 20	100 x 25

Each	.60	.75
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12168



12170



12166



12162



12164



12160

12156. Annealing Cups, Battersea. For melting gold.

Height, mm.	28	30	37	45
Diameter, mm.	28	30	37	50
Per ten, Net	.90	.90	.90	.90

12158. Annealing Cup Covers.

Per ten, Net \$0.25

12160. Anvils. Steel, with polished face. Length, 115 mm.; weight 500 grams. Each \$1.00

12162. Anvils. Steel, with square, mirror-polished face.

Size of face, mm.	38	45	50
Each	.60	.75	1.00

12164. Anvils. Steel, with square, mirror-polished face.

Size of face, mm.	25	38	50	62	75
Each	.65	1.00	1.25	1.70	2.00

12166. Anvils, with Vises. Of japanned iron.

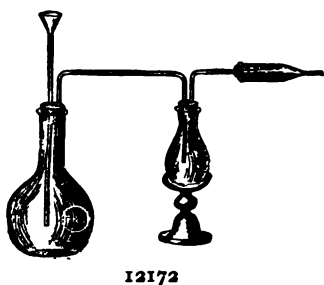
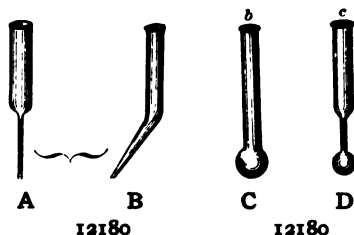
Width of jaws, mm.	38	45	50
Each	.50	.60	.75

12168. Anvils, with Vises. Of best car-wheel iron, with faces chilled hard and smooth.

Area of face, mm.	115x50	160x75	200x85	215x100
Width of jaws, mm.	62	85	100	115
Weight, kilos	4	11	16	22
Each	2.00	5.00	6.00	7.00

12170. Anvils, with Vises. Iron, with steel jaws. The strongest, most practical, and finest made tools of the kind in the market.

Width of jaws, mm.	38	50	62
Weight, grams	1250	1870	3750
Each	1.50	2.40	3.25



Apparatus Supports. See SUPPORTS.

Areometers. See HYDROMETERS.

12172. Arsenic Apparatus, Fresenius'. For the detection of arsenic. Without support. Each \$0.60

12174. Arsenic Apparatus, Marsh's. For the detection of arsenic. Complete with brass stop cock. Each \$2.85

12176. Arsenic Apparatus, Marsh's. Glass parts only. Each \$0.40

12178. Arsenic Plates. Of unglazed porcelain.

Size, mm.	38 x 75	50 x 75	75 x 100
Each	.15	.15	.15

12180. Arsenic Tubes. Of Bohemian glass.

Style	A	B	C	D
Per ten	.35	.35	.35	.35

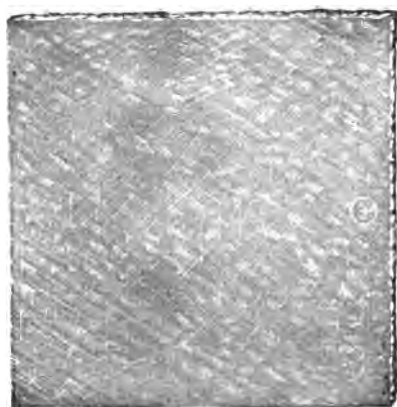
12182. Arsenic Tubes. Of German glass.

Style	A	B	C	D
Per ten	.20	.20	.20	.20

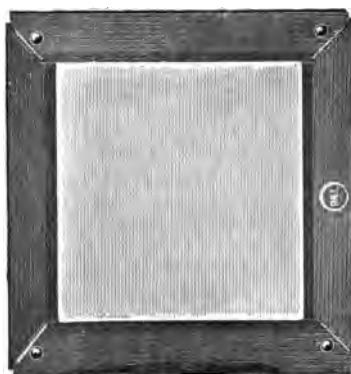
12184. Asbestos Apron. Fire and acid proof. Each \$3.00

12186. Asbestos Board. Fire and acid proof. In sheets 1 meter square.

Thickness, mm.	.75	1.5	2.25	3	5	6	9	12
Weight, kilos	.75	2	2.50	3.50	5	7	10.5	14
Per 500 grams	.15	.15	.15	.15	.15	.15	.15	.15



12188



12198

12188. Asbestos Board. Cut in squares.

Thickness, mm.	.75	.75	.75	1.5	1.5	1.5
Size, mm.	100	125	150	100	125	150
Per ten	.15	.25	.30	.30	.45	.60

12190. Asbestos Cement. Fire and acid proof. Ready for use.

Per 2.5 kilo can \$0.50

12192. Asbestos Cloth. Fire and acid proof. Width, 90 cm. (1 yd.)

Weight, grams, per 90 cm. (1 yd.)	900	1260	1680
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Per 90 cm. (1 yd.)	2.50	2.50	2.50
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12194. Asbestos Cord or Twine. For wrapping handles of apparatus which become hot, and suspending crucibles, retorts, etc., in contact with fire.

Diameter, mm.	1	1.5	3
Per pound	1.10	1.10	1.10

Asbestos Fiber. See CHEMICAL LIST.

12196. Asbestos Mittens. Fire and acid proof.

Per pair \$3.25

12198. Asbestos Pads. Square, bound with metal. Thickness, 1.5 mm.

Size, mm.	75	100	125	150
Each	.10	.12	.13	.15

12200. Asbestos Pads. Square, bound with metal. Thickness, 3 mm.

Size, mm.	75	100	125	150
Each	.12	.13	.14	.18

12202. Asbestos Pads. Square, bound with metal. For use under heated vessels, etc.

Size, mm.	165	200	250	330	500
Each	.45	.50	.60	.70	.95



12210



12214



12212

12004. Asbestos Pads. Oblong, bound with metal.

Size, mm.	250 x 150	350 x 250	500 x 350
Each	.25	.40	.65

12206. Asbestos Paper. For filtering acids, etc. Of pure, white fiber; in sheets 90 cm. square. **Per pound \$0.20**

12208. Asbestos Paper. Extra thin. In sheets 225 x 350 mm. **Per pound \$0.30**

Asbestos Powder. See CHEMICAL LIST.

Asbestos Wool. See CHEMICAL LIST.

12210. Aspirator, Double. Made of zinc, japanned. Reversible for continuous suction.

Capacity of each reservoir, liters,	5	10
Each	7.50	9.00

12212. Aspirator, Magnus. Double, for continuous suction without change of connections. Reservoirs made of zinc.

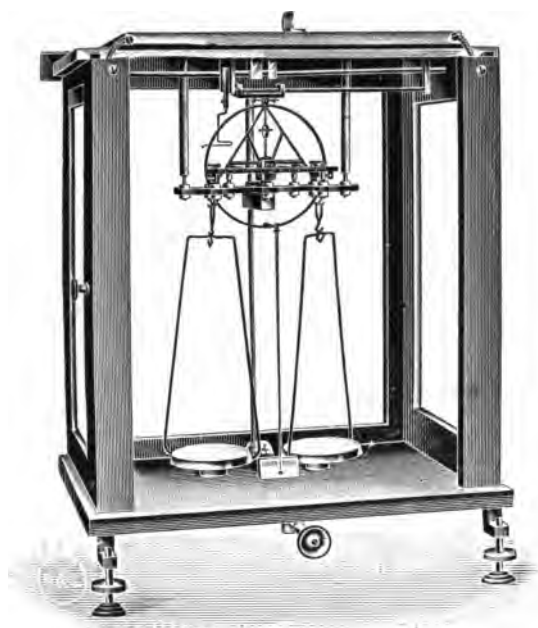
Capacity of each reservoir, liters,	5	10
Each	20.00	25.00

12214. Aspirator, Liebig's. With funnel tube and syphon.

Capacity, liters	1	2
Each	1.50	1.75

Aspirator Bottles. See BOTTLES.

Azotometers. See GAS APPARATUS: NITROMETERS.



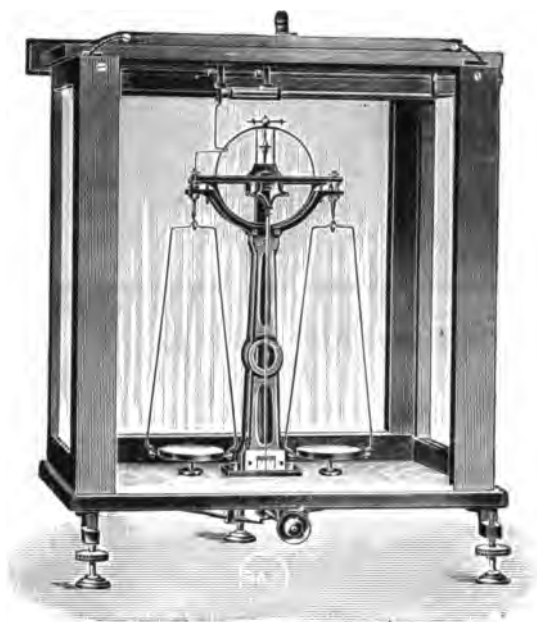
12216

BALANCES

The balances and weights here listed have been carefully chosen from the best American and European makes. Our Analytical and Assay Balances are specially made for accurate scientific work and are accepted in government, college, and commercial laboratories as the very best obtainable instruments for precise and rapid weighing. They are of the finest workmanship throughout and are handsomely finished. **We can supply any other make or style of balance to order.**

The Circular Beam Analytical Balances are of new construction and entirely different from any balances now on the market. The location of the middle axis in the center of the circular beam gives an action extremely smooth and steady, which cannot be obtained with any other form of beam. The beam, being made of uniform weight throughout the circle, gives a rigidity which is not found in any other form.

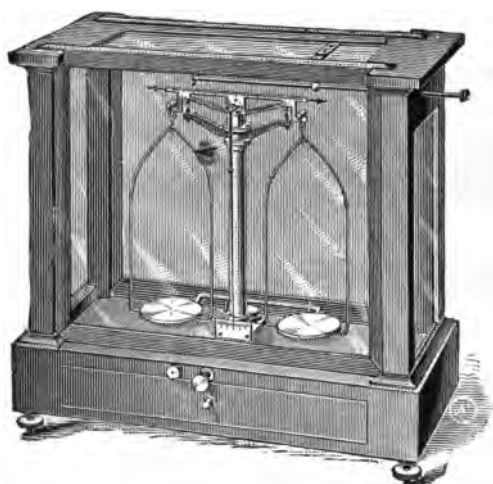
These advantages render this form of balance very sensitive and cause the pointer to indicate the slightest increase or decrease in weight. One-tenth of a milligram will cause the pointer to move from the point 10 to 10 of the scale for 15 seconds, even when the balance is loaded to its full capacity, and after 5 minutes time the pointer will not show a loss of even one division of the scale.



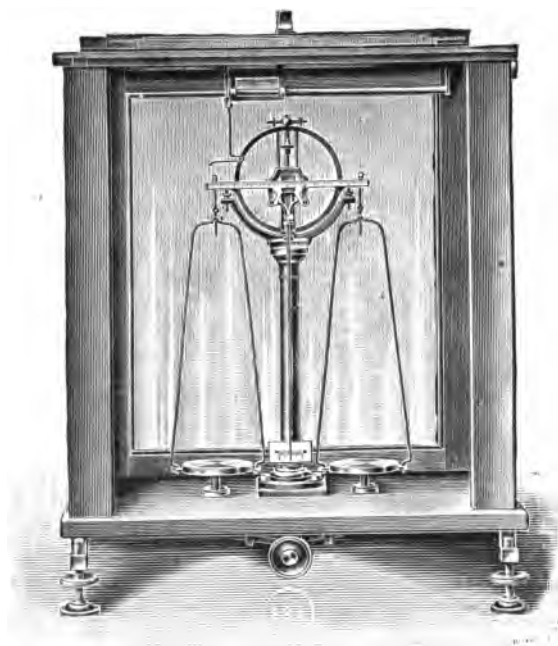
12218

12216. Balance, Analytical, B. & L. Circular Beam. This balance has triple release and arrest for beam, pans, and hangers. The bearings and knives are of agate and are all located within the circle of the beam. Beam, hangers, and pans platinum plated. The scale is suspended by means of brass frame from the top of the case, doing away with a pillar, thus gaining room in the case and making it possible to use pans of larger diameter without increasing the width of beam. In mahogany case with hinged side doors and counterpoised front door, mounted on black plate glass. Provided with rider attachment. Capacity, 200 grams; sensitive to $1/10$ milligram. **Each, Net \$96.00**

12218. Balance, Analytical, B. & L. Circular Beam. This balance has circular aluminum beam, agate bearings and knife edges, and platinum plated pans. The beam, pans and hangers are controlled by triple release and arrest operated from the central axis. The pillar is of brass, highly polished and mounted on black plate glass. The case is finely finished mahogany and has counterpoised door. Capacity 200 grams; sensitive to $1/10$ milligram. Complete with rider attachment and leveling screws. **Each, Net \$76.00**

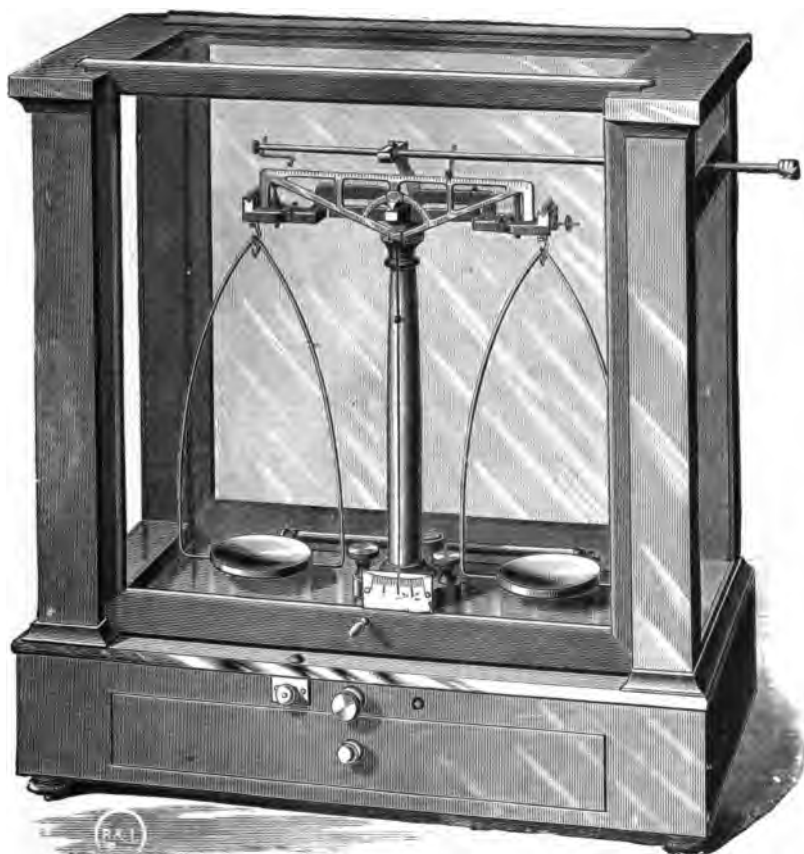


12222



12220

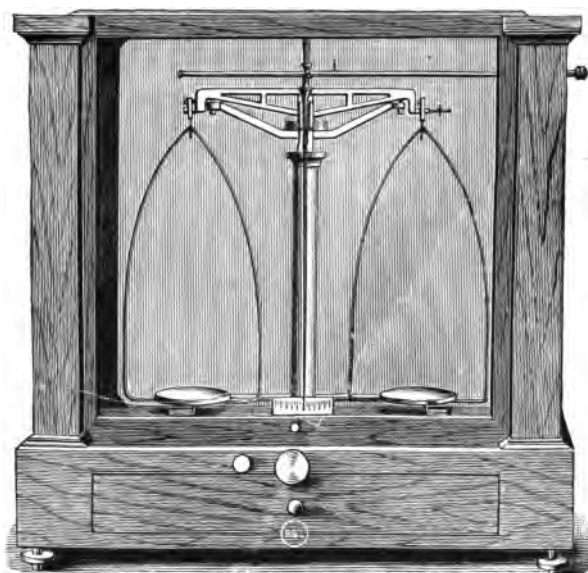
- 12220. Balance, Analytical, B. & L. Circular Beam.** This balance has circular aluminum beam, agate bearings and knife edges, and platinum plated pans. The beam and pans are controlled by double release and arrest operated from the central axis. The pillar is of brass, highly polished and mounted on black plate glass. The case is of finely finished mahogany, and has counterpoised door. Capacity 200 grams; sensitive to 1/10 milligram. Complete with rider attachment and leveling screws. **Each, Net \$58.00**



12224

12222. Balance, Analytical, B. & L. This is a short arm balance with aluminum beam provided with adjusting screws at both ends and agate bearings and agate knife edges. The entire scale is heavily platinum plated and is non-corrosive. The rider has full sweep across the beam which is graduated to 1/10 milligram from 0 to both ends. The pans are made of aluminum, and are provided with improved arrest and automatic stop. This balance is furnished with apparatus for taking specific gravity and metal stand for weighing tubes. In handsome case with glass top and sliding doors. Capacity 100 grams in each pan; sensitive to 1/10 milligram. Diameter of pans, 75 mm.; space between bows, 100 mm. Complete with set of accurately adjusted and heavily platinum plated weights, from 50 grams to 1 milligram and 3 riders. (See illustration, page 20.) **Each, Net \$60.00**

12224. Balance, Analytical, B. & L. A short arm balance provided with new improved arrest for beam and pans, rider attachment, and apparatus for specific gravity and for weighing tubes. All bearings are agate planes and agate knife edges. The beam is grad-



12230

uated to $1/10$ milligram and in such manner that the rider can be placed on the center of the beam and used from the 0 point to either end. In French polished mahogany and glass case with glass top and counterpoised sliding front door, mounted and fastened on plate glass. Capacity 200 grams in each pan; sensitive to $1/20$ milligram. Diameter of pans, 60 mm.; width of bows, 100 mm., but can be made wider if desired.

Each, Net \$125.00

- 12226. Balance, Analytical, B. & L.** Same as No. 12224, but with adjustable shelf for supporting beaker with water when taking specific gravity.

Each, Net \$138.00

- 12228. Balance, Analytical, B. & L.** Same as No. 12224, but with aluminum beam, bows, etc.

Each, Net \$145.00

- 12230. Balance, Analytical, B. & L.** A short arm balance with improved pan arrest, rider attachment, and agate bearings. The beam is graduated to $1/5$ milligram. In French polished mahogany and glass case with glass top and counterpoised sliding front door. Capacity, 100 grams in each pan; sensitive to $1/10$ milligram.

Each, Net \$60.00



12236

12232. Balance, Analytical, B. & L. Same as No. 12230 but with agate knife edges. **Each, Net \$68.00**

12234. Balance, Analytical, B. & L. Same as No. 12230 but with agate knife edges, and aluminum beam, bows, pans, etc. **Each, Net \$80.00**

Balances Nos. 12230, 12232 and 12234 mounted on plate glass.

Each, Extra \$10.00

12236. Balance, Analytical, B. & L., Improved. This is a reliable, low priced balance with arrest for pans, and all bearings of agate. In French polished glass case with counterpoised sliding front door. Capacity, 100 grams in each pan; sensitive to $\frac{1}{4}$ milligram, with full charge. **Each, Net \$45.00**



12242

- 12238. Balance, Analytical, B. & L.** Same as No. 12236 but with rider attachment. **Each, Net \$50.00**
- 12240. Balance, Analytical, B. & L.** Same as No. 12236 but mounted on plate glass. **Each, Net \$60.00**
- 12242. Balance, Analytical, Kohlbusch's Improved.** This is a short arm balance with aluminum beam and agate bearings and knife edges. All parts are heavily platinum plated. The rider has full sweep across the beam which is graduated on both sides. Mounted on plate glass and enclosed in handsome mahogany glass case with glass top and counterpoised front and back doors. Supplied with



12244

apparatus for specific gravity and stand for weighing tubes. Capacity, 200 grams; sensitive to $1/20$ milligram. Space between bows, 100 mm. which may be increased if desired. Complete with set of heavily platinum plated weights, 100 grams to 1 milligram, and 3 riders.

Each, Net \$121.50

- 12244. Balance, Analytical, Kohlbusch's.** A short arm, heavily platinum plated balance, with agate planes and agate knife edges. Has full beam arrest which lifts all planes free from the knives. The rider has full sweep across the beam which is graduated to $1/10$ milligram from 0 to both ends. Furnished with parts for taking specific gravity and for weighing tubes. In handsome case with glass top and bottom and sliding doors. Capacity 100 grams; sensitive to $1/10$ milligram. Diameter of pans, 75 mm.; space between bows, 100 mm. Complete with set of heavily platinum plated weights, from 50 grams to 1 milligram, and 3 riders.

Each, Net \$100.00



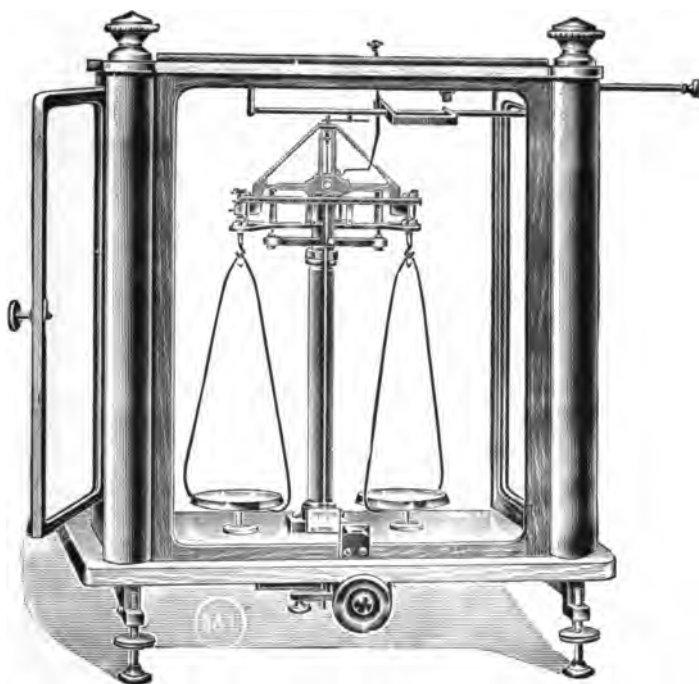
12246



12248

12246. Balance, Analytical, Kohlbusch's. This is a short arm balance with all bearings of agate, and improved beam and pan arrest. Provided with apparatus for taking specific gravity. The rider has full sweep across the beam which is divided to $\frac{1}{5}$ milligram. Mounted in handsome case with glass top. Capacity 200 grams; sensitive to $\frac{1}{5}$ milligram. Diameter of pans, 75 mm.

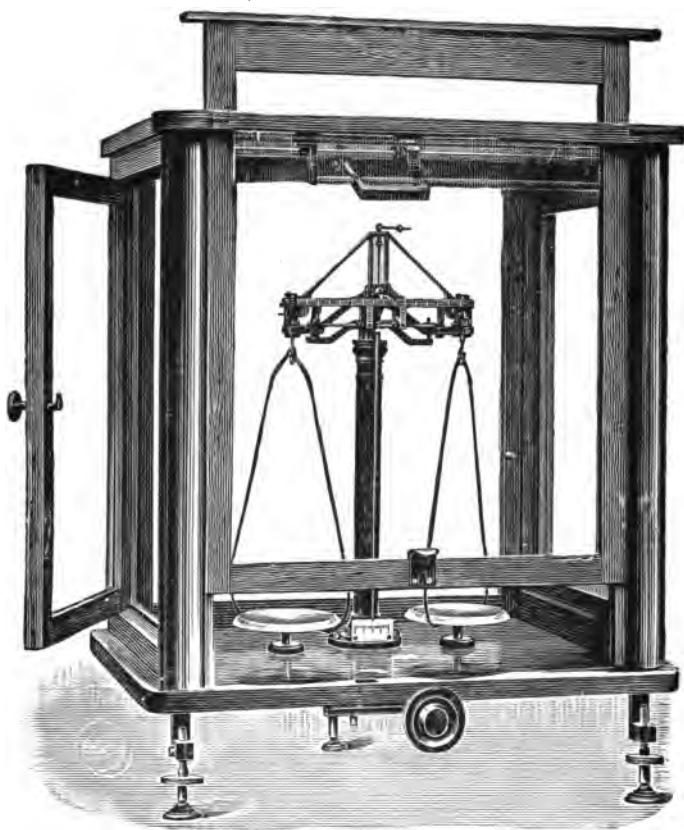
Each, Net \$58.50



12250

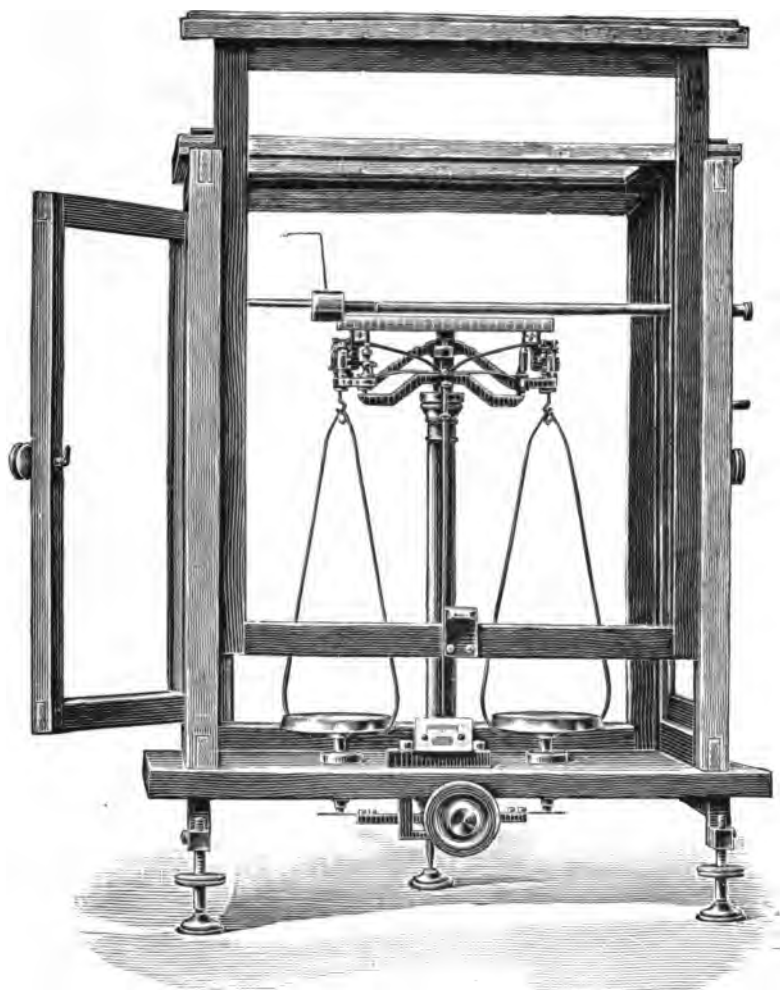
12248. Balance, Analytical, Kohlbusch's. This balance has agate bearings throughout and is provided with arrest for beam and pans. Has rider attachment and arrangement for taking specific gravity. Mounted in handsome glass case. Capacity, 100 grams in each pan; sensitive to $\frac{1}{4}$ milligram. Diameter of pans, 75 mm. (See illustration, page 26.)
Each, Net \$47.00

12250. Balance, Analytical, Sartorius'. Patent short arm balance with aluminum beam, agate bearings and knife edges, adjustment for axes and compensating hangers, and platinum plated pans. In handsomely finished, bronzed brass case with counterpoised sliding front and hinged side doors. Mounted on black plate glass. Capacity, 100 grams; sensitive to $\frac{1}{20}$ milligram. Length of beam 120 mm.
Each, Net \$195.00



12252

- 12252. Balance, Analytical, Sartorius'.** A short arm balance with triangular beam of gilded phosphor bronze, knife edges and planes of agate, pans platinum plated, compensating hangers, rider attachment, and axes adjustments with a circular movement which provides for the release and arrest of the beam and suspensions, and which possesses a common axis with the central knife edge. The scale for the rider, with a parallelogram arrangement for moving it, is placed in front of the beam. In polished mahogany case with counterpoised sliding door, mounted on black plate glass. Capacity, 200 grams; sensitive to 1/10 milligram. Length of beam, 140 mm.
- Each, Net \$120.00**

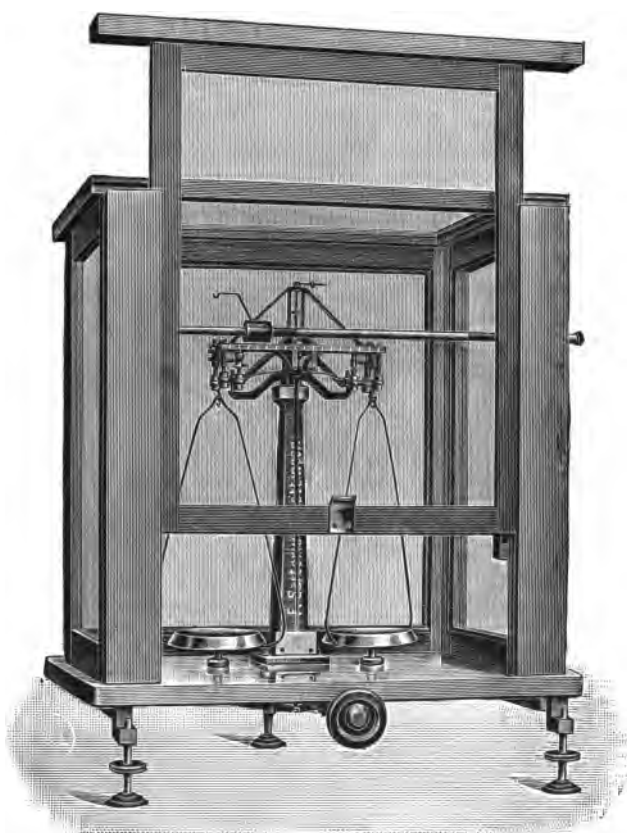


12254

12254. Balance, Analytical, Sartorius'. Patent short arm balance with straight aluminum beam, which at the same time forms a scale for the rider, and knife edges and planes of agate. The circular movement providing for the release and arrest of the beam and suspensions has common axis with the central knife edge, so that at whatever point the swinging is arrested, no change of axis can take place. Has platinum plated pans, adjustments for the axes, compensating hangers and rider attachment. Capacity, 200 grams; sensitive to 1/10 milligram. Length of beam, 140 mm.

Each, Net \$80.00

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



12256

12256. Balance, Analytical, Sartorius'. A short arm balance with triangular beam and provided with rider attachment. The beam, pans, and hangers are fitted with arrest of circular movement. Has platinum plated pans, and agate knife edges and agate planes. Although low in price, this balance meets the highest expectations in accuracy and quickness of weighing. In black walnut case with counterpoised sliding door, mounted on black plate glass. Capacity, 200 grams; sensitive to $1/5$ milligram. Length of beam, 140 mm.

Each, Net \$60.00

12258. Balance, Analytical, Sartorius'. Same as No. 12256 but without rider attachment.

Each, Net \$48.00

12260. Balance, Analytical, Troemner's. This balance is of the finest workmanship throughout and is in use at the U. S. Coast Survey and all



12260



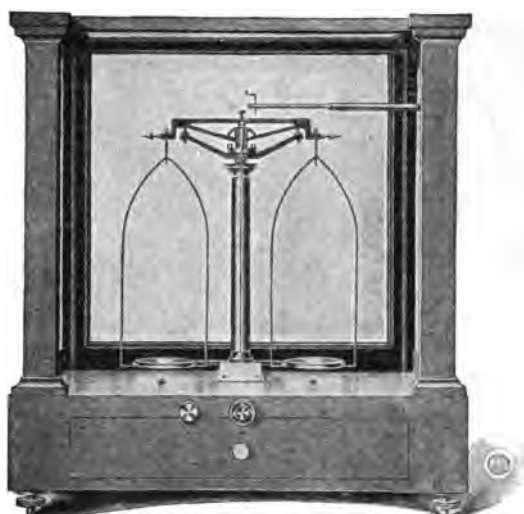
12262

the large iron and steel works. It is a short arm balance with aluminum beam, agate planes and agate knives. Both arms of the beam are graduated. The pans are of aluminum; all brass work is gold plated. Provided with improved self-locking pan arrest, mounted in elegant mahogany case with glass top and heavy plate glass bottom. Capacity, 200 grams; sensitive to $1/20$ milligram.

Each, Net \$125.00

12262. Balance, Analytical, Troemner's. A short arm balance with aluminum beam, both arms of which are graduated to $1/10$ milligram, and agate bearings throughout. The bows, 100 mm. wide, and pans are of nickel. Mounted in fine French polished mahogany case with plate glass bottom. Capacity, 200 grams; sensitive to $1/10$ milligram.

Each, Net \$96.00



12264



12268, 12270

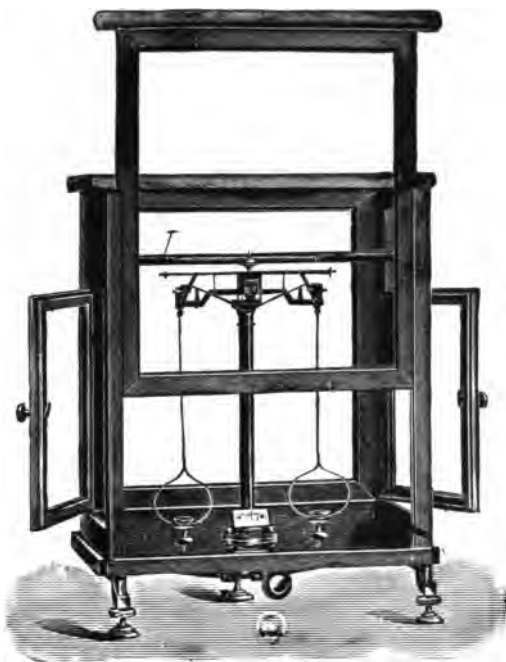
12264. Balance, Analytical, Troemner's. A short arm balance with agate bearings, improved pan arrest and extra wide bows. The beam is 150 mm. long and graduated to $1/5$ milligram. Mounted in polished mahogany case with counterpoised door. Capacity, 100 grams in each pan; sensitive to $1/10$ milligram. This balance is especially desirable for students' use in college laboratories.

Each, Net \$60.00

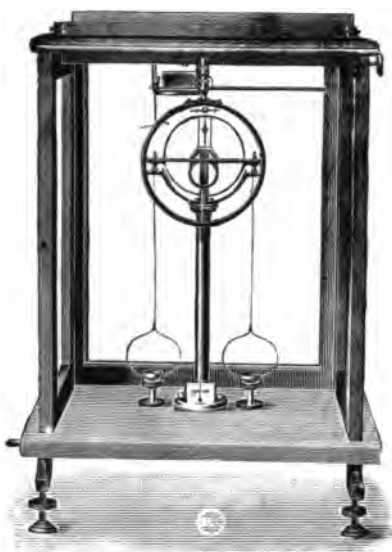
12266. Balance, Analytical, Troemner's. Same as No. 12264 but with agate knives.

Each, Net \$70.00

12268. Balance, Analytical, Troemner's. Specially adapted for students' use, also for manufacturing establishments, etc. Has open beam,



12272



12274

graduated to $\frac{1}{2}$ milligram, with improved rider attachment. All bearings are agate. In fine French polished mahogany case. Capacity, 100 grams in each pan; sensitive to $\frac{1}{4}$ milligram. Pans 75 mm. diameter, fitted in wide bows. **Each, Net \$50.00**

- 12270. Balance, Analytical, Troemner's.** This balance has steel bearings throughout. In French polished case with counterpoised sliding door. Capacity, 100 grams in each pan; sensitive to $\frac{1}{4}$ milligram. Diameter of pans, 85 mm. **Each, Net \$40.00**

- 12272. Balance, Assay, B. & L. Circular Beam.** This balance has triple release and arrest for beam, pans, and hangers. The rider scale is graduated in 100 divisions, reading from a central 0 to both sides of the beam. A magnifying lens is provided whereby the divisions although very small can be read with the same ease as wider divisions on a longer beam. The beam is only 90 mm. long; such a short beam would be impossible in any other construction. The beam is very light, made of aluminum and both it and the pans are gold plated. The knife edges and planes are of agate. In finely polished mahogany case, mounted on black plate glass. Sensitive to $\frac{1}{200}$ milligram. **Each, Net \$120.00**

- 12274. Balance, Assay, B. & L.** This balance is of finest construction throughout, with triple release and arrest for beam, pans, and hangers. Knife edges and planes are of agate. Beam divided into 100 parts and provided with rider attachment. Both beam and pans are heavily gold plated. Case is of fine mahogany with side doors and counterpoised sliding front door, mounted on black plate glass. Capacity, 10 grams; sensitive to $\frac{1}{10}$ milligram.

Each, Net \$75.00



12276

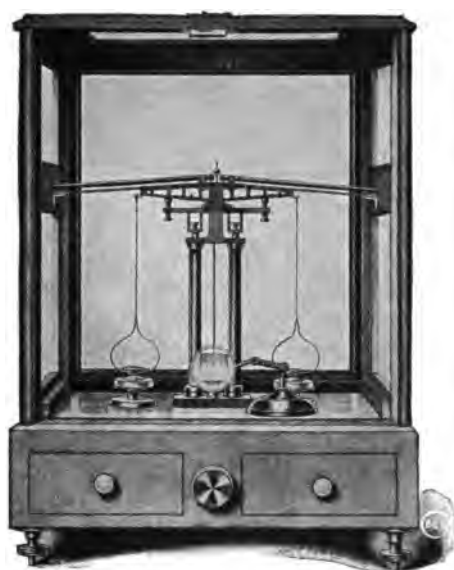


12280

12276. Balance, Assay, Kohlbusch's. A short arm balance with aluminum beam and hangings, and agate bearings. Heavily platinum plated throughout. Rider has full sweep across the beam which is graduated in 50 parts on each side. Improved full beam arrest, all bearings lifted from knives when at rest. In handsome, polished mahogany case with counterpoised sliding door. Sensitive to 1/500 milligram. Complete with set of specially adjusted weights from 1 gram to 1/10 milligram and 2 riders of $\frac{1}{2}$ and 1 milligram.
Each, Net \$90.00

12278. Balance, Assay, Kohlbusch's. Same as No. 12276 but fitted on plate glass.
Each, Net \$100.00

12280. Balance, Assay, Kohlbusch's. With short aluminum beam, divided to 1/100 milligram, agate knife edges and agate planes, and improved beam and pan arrests. Rider has full sweep across the beam. The entire balance is heavily platinum plated; hangings all aluminum, supplied with magnifying glasses to read the divisions on the beam and indicator. In fine glass case with sliding door, mounted on plate glass. Adjusted to the highest attainable sensitiveness.
Each, Net \$117.00



12284



12282



12282 (Case)

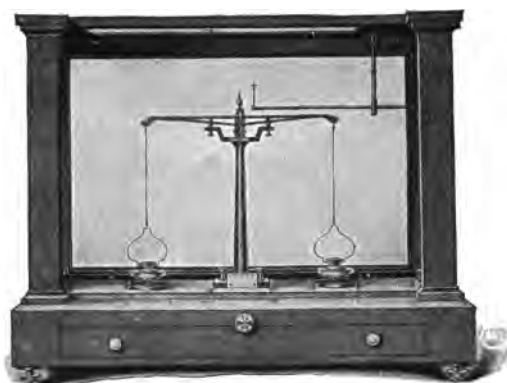
12282. Balance, Assay, Kohlbusch's Portable. This is an improved form of balance with new attachment to keep beam in place so that it does not need to be removed when traveling and the balance can be set up in working order in ten seconds. All bearings are agate; hangings of aluminum. Has rider attachment. The needle deviates over 20 divisions for 1 milligram. Supplied with full set of platinum weights from 1 gram to 1/10 milligram, and rider. Complete with light outside case and strap with handle for carrying.

Each, Net \$68.00

12284. Balance, Assay, Troemner's. A short arm balance of the very finest and most delicate construction. The beam 150 mm. long, and its hangers are of pure aluminum; the bearings and knives are of agate. Has double column with improved eccentric lift, releasing the pans first and then the beam by one operation. Both arms of the beam are graduated into equal parts. The needle moves over



12288



12286

100 divisions for 1 milligram, showing the extreme sensitiveness of 1/200 milligram. In glass case with glass top and heavy plate glass bottom.

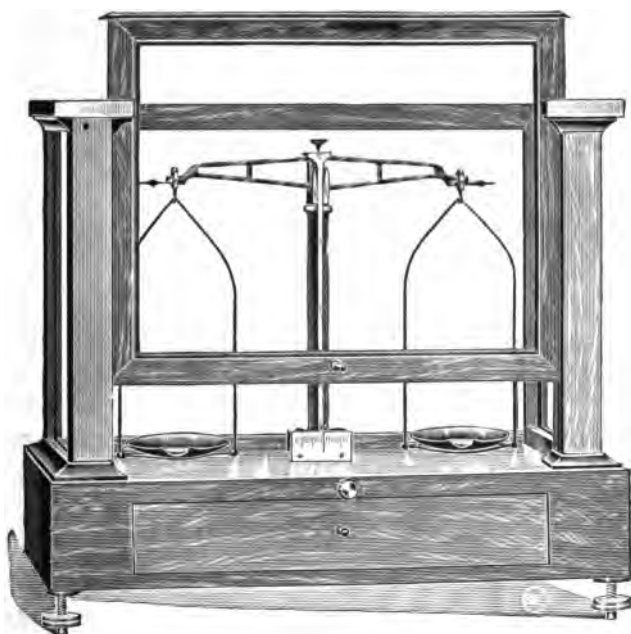
Each, Net \$165.00

12286. Balance, Assay, Troemner's. Used in U. S. Assay Offices and U. S. Mints. Has open beam of pure aluminum, divided to 1/10 milligram. All bearings are agate. The balance has new improved arrest for riders, and the needle indicates 50 full divisions on an ivory scale for 1 milligram. This balance is built on latest improved form and is of great excellence and simplicity of construction. Fitted in mahogany case with glass top and heavy plate glass bottom. Sensitive to 1/100 milligram. **Each, Net. \$95.00**

12288. Balance, Assay, Pocket. For traveling purposes. The beam is raised and lowered by means of drop lever. Case when closed measures 150 mm. long, 70 mm. wide, and 32 mm. high. Capacity, 10 grams; sensitive to 1/4 milligram. Complete with set of weights, 10 grams to 1 milligram, fitted into box as shown in illustration. A half assay ton weight will be supplied in place of the 10 gram weight, making the balance serve for pulp scale or assaying where 1/4 milligram is sufficient. **Each, Net \$16.50**



12290



12292

12290. Balance, Troemner's Laboratory. This is an extra fine balance having a gold plated beam with adjusting screws at both ends. The other parts of the scale are nicked with the exception of the pans which are solid silver. All of the bearings are jeweled and



12296

the balance is provided with a delicate pointer which moves over a scale at the base of the pillar. The extra large case is of French polished mahogany with counterpoised door sliding upwards, leveling screws and level. Diameter of pans, 75 mm. Capacity, 100 grams; sensitive to $\frac{1}{2}$ milligram.

Each, Net \$45.00

- 12292. Balance, Improved Laboratory.** Open beam fitted with adjusting screws at both ends. The pans, 75 mm. diameter, are nickel plated. Case of polished mahogany with glass sides and top, sliding door, leveling screws and spirit level. Capacity, 100 grams; sensitive to $\frac{1}{2}$ milligram. (See illustration, page 37.)

Each, Net \$25.00

- 12294. Balance No. 12292 with agate bearings.**

Each, Net \$30.00

- 12296. Balance, Laboratory.** This balance is especially adapted to general laboratory work, assaying, etc., being accurate and convenient in use. The beam has adjusting screws at both ends. Mounted on base with drawer.

Capacity, grams	60	150	300	900	1500	3000
Diameter of pans, mm.	75	85	110	140	175	200
Sensitiveness, milligrams	1	1	2	2	10	20

Each, Net	11.00	15.00	22.00	26.00	35.00	48.00
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- 12298. Balance No. 12296 in glass case.**

Each, Net 20.00 24.00 31.00 42.00 52.00 72.00

- 12300. Balance No. 12296 in glass case. With leveling screws and spirit level.**

Each, Net 24.00 28.00 34.00 45.00 55.00 75.00



12302

- 12302. Balance, Chemical.** For weighing chemicals, etc. This balance is made of polished brass, except the pans which are nickeled. Beam, 225 mm. long, provided with adjusting screws. Mounted on polished wooden box with drawer. Diameter of pans, 75 mm. Sensitive to 3 milligrams. **Each, Net \$9.00**
- 12304. Balance, Chemical.** Same as No. 12302 with set of weights 20 grams to 1 centigram. **Each, Net \$12.00**
- 12306. Balance, Chemical.** For technical work. Made of brass, heavily lacquered. Has eccentric lift. Mounted on base with drawer. Length of beam, 150 mm.; diameter of pans, 75 mm. Sensitive to 1 centigram. (See illustration, page 40.) **Each, Net \$6.00**
- 12308. Balance, Micro-Chemical.** This balance, although low in price, is of sufficient accuracy for weighing out the reagents and chemicals necessary for making up the solutions, etc., generally used in micro-biological work. The metal parts are nickeled and are mounted on an oak base with drawer for weights. Length of beam, 150 mm.; diameter of pans, 75 mm. **Each, Net \$2.00**



12306



12308

12310. Balance, Laboratory. For laboratory and technical use. Open beam with adjusting screws, steel bearings and eccentric arrangement for lifting. With removable pans. All parts heavily lacquered.



12314

Capacity, kilos.	$\frac{1}{2}$	1	2	5
Length of beam, mm.	290	340	380	420
Diameter of pans, mm.	130	150	180	220
Sensitiveness, milligrams	10	20	40	100

Without base, Each, Net	17.50	20.00	24.00	30.00
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12312. Balance No. 12310 on polished base.

Each, Net	18.75	21.50	25.75	32.00
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12314. Balance No. 12310 on polished base with drawers.

Each, Net	22.50	26.50	31.25	38.50
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12316. Balance, Harvard Trip. For general laboratory use. Has two porcelain plates, square or circular as desired, 150 mm. diameter. (Square plates sent unless otherwise ordered.) Beam graduated in 1/10 gram divisions up to 10 grams. Capacity, 1 kilogram; sensitive to 1/10 gram. (See illustration, page 42.)

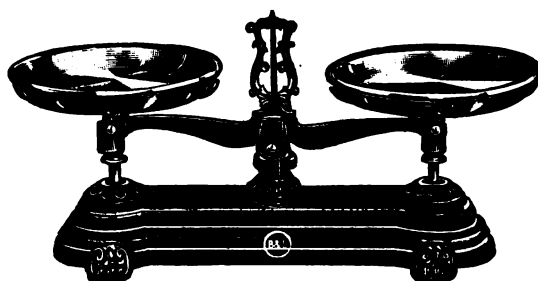
12318. Balance, Howe's. Two iron plates, patent frame, and weights complete. Metric weights sent unless otherwise ordered. (See page 42.)

Capacity; 10 grains to	1	3	5	7 kilos.
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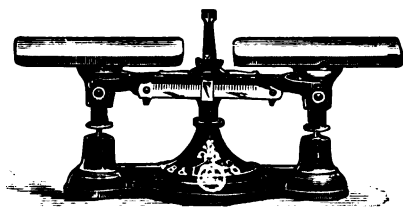
Without scoop, Each, Net	4.25	5.00	5.75	7.75
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12320. With tin scoop. Each, Net	4.75	5.75	7.00	9.00
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12322. With brass scoop. Each, Net	5.50	6.50	8.00	10.00
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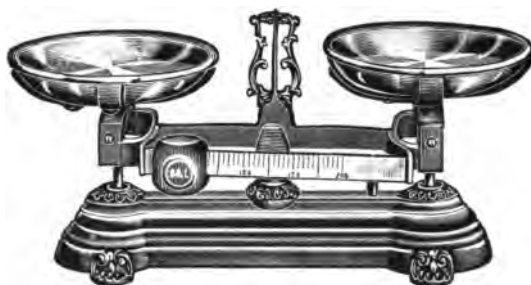
12324



12316



12318



12326

12324. Balance, Robervahl's. For coarse weighing. Neatly finished throughout; metal base; brass pans. Without side beam.

Capacity, kilos.	1	3	5	10
Diameter of pans, mm.	125	150	200	225
Each, Net	2.80	3.60	4.00	5.00

12326. Balance No. 12324 with side beam.

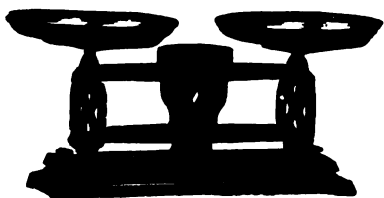
Each, Net	5.00	5.50	7.00	8.00
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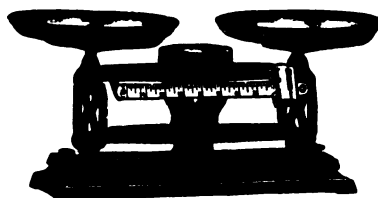
12328



12330



12332



12334

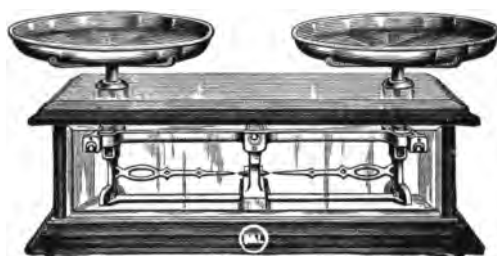
12328. Balance, Torsion. Very accurate and handsome, nickel plated throughout and mounted in glass case. Beam graduated to 250 grams. Pans 225 mm. diameter. Capacity, 10 kilos.; sensitive to 1/10 gram. **Each, Net \$35.00**

12330. Balance, Torsion. A handsome balance mounted in glass case. Beam has rider and is graduated on upper edge from 1/8 to 8 grains and on lower edge from 5 milligrams to 1/2 gram. Diameter of pans, 75 mm. Capacity, 250 grams; sensitive to 1 milligram. **Each, Net \$35.00**

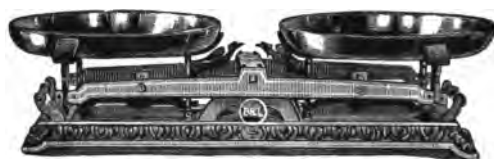
12332. Balance, Torsion Laboratory. Especially adapted to general laboratory work. Has no knife edges to rust or wear out. All parts, except the pans which are nickered, are neatly japanned. Pans, 150 mm. diameter. Capacity, 5 kilos.; sensitive to 1/2 gram. **Each, Net \$9.75**

12334. Balance No. 12332 with beam graduated to 1/2 gram. **Each, Net \$11.50**

12336. Balance, Torsion Micro-chemical. Of extremely stable and durable construction, there being no bearing surfaces to wear out or rust. The metal parts, except the pans, are enclosed in an enamelled case. Pans, 100 mm. diameter, of German silver. Capacity, 500 grams; sensitive to 5 milligrams. (See page 44.) **Each, Net \$12.00**



12338



12340



12336



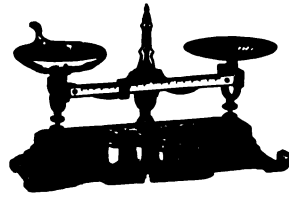
12342

12338. Balance, Troemner's New Agate. This is an entirely new balance in form and design, of the very finest workmanship and finish. The box has frame of rich mahogany with beveled glass front, ends and top. The inside works are highly finished in nickel. All working parts are jewelled, being set with Russian agates, thus making the scale indestructible, lasting a lifetime without repairs. Diameter of pans, 225 mm. This balance will be supplied with antique oak frame, if desired, at the same price. **Each, Net \$35.00**

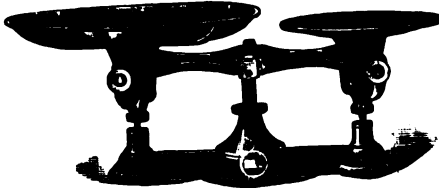
12340. Balance, Troemner's Laboratory. This balance is made in the most substantial manner. All the working parts are set with flexible steel bearings. The movement is the latest improved, combining great capacity, high sensibility, and smooth action. Has large heavy brass pans, 325 mm. diameter. Capacity, 5 grams to 20 kilos. **Each, Net \$32.00**

12342. Balance, Troemner's Prescription. This scale is of the very finest workmanship throughout. The box is of French polished ebony with marble top, which has recess for the weights, and glass cover with stop hinges. The pans are solid nickel. Sensitive to 3 milligrams.

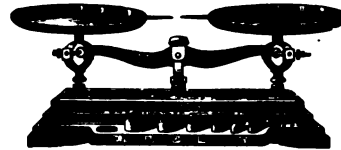
Diameter of pans, mm.	75	95
Each, Net	18.00	20.00



12350



12346



12348



12344

12344. Balance, Troemner's. In ebony box with dial and marble top. Heavy nickel plated pans.

Diameter of pans, mm.	175	200	225
Capacity, kilos.	5	8	10

Each, Net	12.00	14.00	16.00
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12346. Balance, Troemner's Trip. Very substantial and reliable. Ornamented in black and gold. Has one heavy brass pan which is removable.

Diameter of pans, mm.	175	225	300	400	475
Capacity, kilos.	2	4	10	15	20

Each, Net	5.00	6.00	7.00	10.00	14.00
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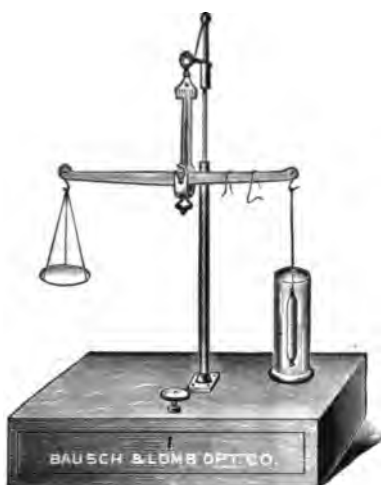
12348. Balance, Troemner's New Laboratory. For accurate weighing. This balance is especially designed for laboratory and pharmaceutical work. Has removable pans, 150 mm. diameter. Capacity, 500 grams in each pan; sensitive to 5 centigrams. Supplied with full set of weights, from 200 grams to 1 centigram, neatly fitted in a projecting shelf on base of balance.

Each, Net. \$9.00



12352

- 12350. Balance, Troemner's New Dispensing.** This is a handsomely finished scale with nickel plated, removable pans, 95 mm. diameter, and side beam divided on upper edge into 120 divisions each division representing 1 grain, on the lower edge into decigrams. Capacity, 60 grams; sensitive to 5 centigrams. Supplied with set of brass weights from 50 grams to 1 centigram fitted into a shelf at base of scale. (See illustration, page 45.) **Each, Net \$8.00**
- 12351. Balance, Specific Gravity, Jolly's Spiral.** This is an improved form of the Jolly balance and in simplicity of construction, accuracy of result and speed of operation is far superior to the old form. **Each, Net \$15.00**
- 12352. Balance, Specific Gravity, Kohlbusch's Hydrostatic.** Specially designed for school and commercial use. The scale can be used for ordinary weighing by substituting the scale bow in place of the counterpoised pan. Mounted on base with drawer. Capacity, 1 kilo to 1 centigram. Length of beam, 250 mm.; diameter of pans, 135 mm. Complete with set of brass weights, 500 grams to 1 centigram. **Each, Net \$25.00**



12354



12358



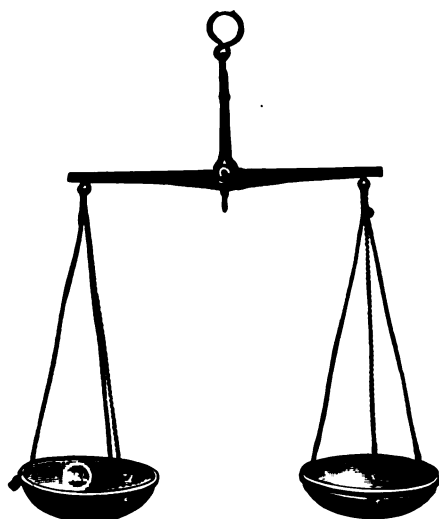
12356

- 12354. Balance, Specific Gravity, Mohr's.** With Reimann's thermometer. For liquids and solids. Accurate to the fourth decimal. Made of lacquered brass; with adjustable support. Complete with set of pans for ordinary weighing, and set of riders. **Each, Net \$15.00**
- 12356. Balance, Specific Gravity, Sartorius' Hydrostatic.** For liquids. The use of the very hardest materials, and weights with loops of tempered steel render this balance the most accurate and durable possible to construct. Provided with large Reimann's displacement body (displacement 10 c.c. of water), thermometer, and riders which weigh accurately 10, 1, .1, and .01 gram. **Each, Net \$23.00**



12360

- 12358. Balance, Specific Gravity, Westphal's.** With Reimann's thermometer. The handiest and most improved form for quick determination of the specific gravity of liquids. Accurate to the fourth decimal. Adjustable support on polished hardwood box which will enclose the whole apparatus. Complete with set of riders. (See illustration, page 47.) **Each, Net. \$10.50**
- 12360. Balance, Specific Gravity and Prescription.** This is an exceedingly accurate and well made balance and is so constructed as to serve for specific gravity weighing with Reimann's patent thermometer and also for general laboratory purposes. It has short aluminum beam with arrest, nickel plated scale pans 70 mm. diameter and extra Papier-Maché pans. Capacity, 200 grams; sensitive to 1 milligram. **Each, Net \$23.00**



12362



12364

12362. **Balance, Hand.** With polished brass beam, steel knife edges, horn pans, and silk cord.

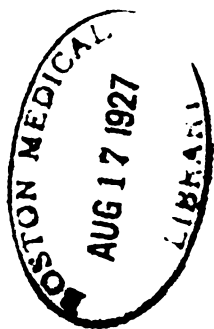
Length of beam, mm.	150	175	200
Diameter of pans, mm.	60	75	90
Each, Net	1.00	1.25	1.50

BALANCE WEIGHTS

12364. **Gram Weights, Analytical, B. & L.** Gram pieces, gold plated; fractional pieces and two riders of platinum. Adjusted with the greatest accuracy. Furnished in velvet lined polished mahogany box with ivory tipped forceps, and fractional pieces covered by glass plate. These are the finest weights possible to produce and we guarantee them to be exactly as representd.

Sets, 1 milligram to	10	20	50	100 grams
Per set, Net	7.00	7.75	9.00	11.00
Sets, 1 milligram to	200	500	1000	grams
Per set, Net	15.00	18.00	25.00	

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



12368 A



12370

12366. Gram Weights, Single Analytical, B. & L. Same as weights in sets No. 12364. (See illustration, page 51.)

Milligrams	1	2	5	10	20
Each, Net	.10	.10	.10	.15	.15
Milligrams	50	100	200	500	
Each, Net	.20	.30	.50	1.00	
Grams	1	2	5	10	20
Each, Net	.40	.45	.60	.70	.80
Grams	50	100	200	500	1000
Each, Net	1.10	1.75	2.25	2.75	3.50

12368. Gram Weights, B. & L. Of platinum and aluminum. In polished mahogany case with ivory tipped forceps. These sets are the same quality as sets No. 12364.

A. Set including weights from 1/10 milligram to 1 gram.

Per set, Net \$6.75

B. Set including weights from 1 milligram to 1/2 gram.

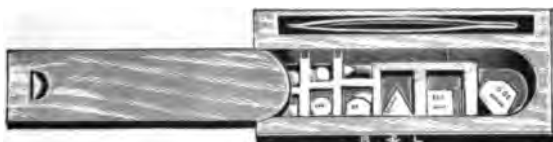
Per set, Net \$3.75

12370. Gram Weights. Gram pieces nickel plated; fractional pieces of aluminum. Adjusted with the greatest accuracy. Furnished in velvet lined, polished mahogany box with nickeled forceps. A very reliable set.

Sets, 1 milligram to	20	50	100	200 grams
Per set, Net	2.40	3.00	3.40	5.00
Sets, 1 milligram to	500	1000	2000	5000 grams
Per set, Net	6.50	8.50	15.50	25.00



12376



12374



12366 and 12372

12372. Gram Weights, Single. Same quality as weights in sets No. 12370.

Milligrams	1	2	5	10	20	50	100	200	500
Each, Net	.10	.10	.10	.10	.10	.10	.10	.10	.10
Grams	1	2	5	10	20				
Each, Net	.10	.10	.10	.10	.10	.10			
Grams	50	100	200	500	1000				
Each, Net	.20	.30	.60	.90	1.75				

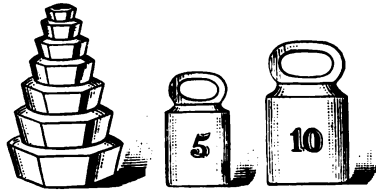
12374. Gram Weights. Of Aluminum. Very accurately adjusted. In polished mahogany box with nickeled forceps. Set includes weights from 1 milligram to 1 gram. **Per Set, Net \$1.50**

12376. Gram Weights. Of good quality; gram pieces of brass, heavily lacquered, fractional pieces of German silver. In polished box.

Sets, 10 milligrams to	10	20	50	100	200 grams
Per set, Net	.75	1.00	1.25	1.75	2.25
Sets, 10 milligrams to	500	1000	2000	5000	grams
Per set, Net	3.25	5.00	8.00	14.00	



12380



12382



12378

12378. Gram Weights, Single. Same quality as weights in sets No. 12376.

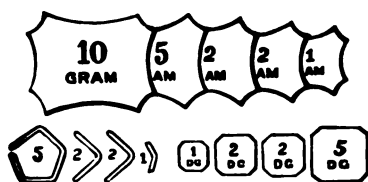
Milligrams	1	2	5	10	20	50	100	200	500
Each, Net	.05	.05	.05	.05	.05	.05	.05	.05	.05
Grams	1	2	5	10	20	50	100	200	500
Each, Net	.05	.05	.05	.05	.05	.10	.10	.10	.10
Grams	50	100	200	500	1000	500	1000	2000	5000
Each, Net	.15	.15	.25	.60	1.25				

12380. Gram Weights. Of brass; in walnut box.

Sets, 10 milligrams to	20	50	100	200	500	1000 grams
Per set, Net	.50	.75	1.00	1.50	2.00	3.00

12382. Gram Weights. Of iron; for coarse weighing.

Sets, 10 grams to	1	2	5	10	20 kilos.
Per set, Net	1.25	2.00	3.50	5.00	7.00



12384



12386



12386



12392



12390

12384. Gram Weights, Troemner's Metric. Gram pieces made of brass; fractional pieces of aluminum.

Sets, 10 milligrams to	1	10 grams
Per set, Net	.25	.50

12386. Gram Weights. For sugar analysis.

Grams	13.024	26.048
Each, Net	.75	.75

12388. Both Weights No. 12386 in lined case.

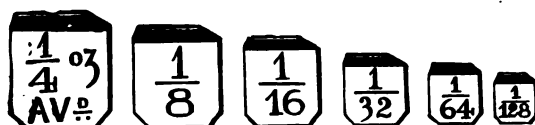
Pet set, Net \$2.00

12390. Assay Ton Weights. Set of 1/20 AT to 4 AT in box. These weights were introduced by Dr. C. F. Chandler. One assay ton is equal to 29.1666 grams which contain as many milligrams as there are troy ounces in a ton of 2000 pounds avoirdupois. Therefore, if one assay ton of ore assays one milligram, the ton contains one ounce troy.

Per set, Net. \$6.00

12392. Avoirdupois Weights. Of sealed iron. For coarse weighing.

Sets, 1/4 ounce to	8 ozs.	1	2	4	8 pounds
Per set, Net	.75	1.00	1.25	1.75	2.75



12398



12402, 12404



12400

12394. Same as No. 12392 but made of sealed zinc.

Sets, 1/4 ounce to	8 ozs.	1	2	4	8 pounds
Per set, Net		1.25	1.75	2.50	3.50 5.50

12396. Same as No. 12392 but made of sealed brass.

Sets, 1/4 ounce to	8 ozs.	1	2	4	8 pounds
Per set, Net		1.50	2.00	3.50	6.00 11.00

12398. Avoirdupois Weights, Troemner's. Made of nickel silver; 1/128 ounce to 1/4 ounce. Per set, Net \$0.75

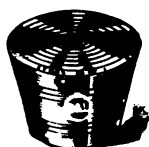
12400. Grain Weights, Troemner's. Of aluminum; concave; 1/2 grain to 10 grains. Per set, Net \$0.35

12402. Troy Weights. Very fine for weighing gold and silver. Grain pieces of aluminum; other pieces of brass, heavily lacquered. These weights are accurately adjusted and finely finished. Sets furnished in polished boxes.

Sets, 1/4 grain to	6	10 pwts.	1 ounce
Per set, Net	.50	.75	3.50

12404. Troy Weights. Same quality as No. 12402.

Sets, 1/2 grain to	2	5	10	20 ounces
Per set, Net	4.00	6.00	7.50	11.00
Sets, 1/2 grain to	50	100	200	500 ounces
Per set, Net	15.50	20.00	29.00	43.00



12408



12410



12412, 12414

12406. Troy Weights. Of brass, lacquered; accurately made. In oiled walnut blocks.

Sets, $\frac{1}{2}$ grain to	1	2	4	5	10 ounces
Per set, Net	1.00	1.60	2.25	2.50	4.00

12408. Troy Cup Weights. Accurately adjusted.

Sets, $\frac{1}{4}$ ounce to	4	8	16	32	64 ounces
Per set, Net	1.50	3.00	4.00	5.50	9.00

12410. Riders. First quality.

Milligrams	$\frac{1}{2}$	1	2	5	6	10	12
Each, Net	.15	.15	.15	.15	.15	.15	.15

12412. Balance Pans. Of glass.

Diameter, mm.	65	70	75
Per pair, Net	.65	.65	.65

12414. Balance Pans. Of nickel.

Diameter, mm.	65	70	75
Per pair, Net	1.00	1.00	1.00

12416. Balance Watch Glasses. Of glass; accurately adjusted for analytical work.

Diameter, mm.	50	65	75
Per pair, Net	.30	.40	.55

12418. Balloons. Of collodion film; for collecting gases.

Capacity, cc.	200	800	1500	2500	5000
Each	.30	.40	.65	.90	1.25

Balloons of Glass. See GAS BALLOONS.

12420. Balloons. Of gold beater's skin; for hydrogen and coal gases.

Diameter, mm.	250 to 300	500 to 600
Each	1.50	4.50



12430



12436

12422. Barometer, Aneroid.		Pocket size, 55 mm. diameter.		
	For altitudes of	3000	8000	16000 feet
	Each, Net	20.00	17.00	21.00
12424. Barometers, Aneroid.		Watch size.		
	For altitudes of	3000	8000	16000 feet
	Each, Net	18.50	17.00	20.00
12426. Barometers, Bunsen's.	Without graduations.			Each \$2.00
12428. Barometers, Bunsen's.	No. 12426, filled with mercury.			Each \$8.50
12430. Barometers, Bunsen's.	Graduated in millimeters.			Each \$4.50
12432. Barometers, Bunsen's.	No. 12430, filled with mercury.			Each \$10.00
12434. Barometer.	Support for above.			Each \$2.00
12436. Barometers.	Plain; mounted on polished wood. With milk glass scale.			Each \$8.50



12448



12450



12452

12438. Barometers. With thermometer. Each \$10.00

12440. Barometer Tubes. Bent; with bulb; closed at one end. Each \$0.40

12442. Barometer Tubes. Straight; 900 mm. long; closed at one end. Each \$0.35

12444. Baskets. Of lead. For holding zinc, iron sulphide, etc., in gas generators. Each \$0.50

12446. Baskets. Of lead. On legs. Each \$0.75

12448. Battery, Bunsen's. With rolled zincs.

Capacity, liters.	1	4	8
Size of jar, mm.	110x110	150x200	150x200x225
Each, Complete	1.40	2.50	4.50
Glass jar	.18	.24	1.00
Porous cup	.14	.36	.60
Carbon	.06	.24	.30
Clamp for carbon	.32	.36	.40
Zinc	.60	1.20	1.40
Connector for zinc	.06	.10	.20

12450. Battery, Crowfoot Gravity.

Size, mm.	125x175	150x200
Each, Complete	1.10	1.20
Glass jar	.48	.50
Zinc	.46	.60
Copper	.18	.20

12452. Battery, Daniell's.

Size, mm.	150x200
Each, Complete	2.00
Glass jar	.45
Zinc	.70
Copper	.30
Porous cup	1.05
Pocket	.25
Clamp	.25



12454



12456



12458

12454. Battery, Edison-Laland's. Unequaled for closed current work. Inexpensive, clean, and constant until the elements are completely exhausted.

Type	BB	Q	S
Size, mm.	110x195	140x220	140x325
Capacity, ampere hours	100	150	300
Each in porcelain jar, Compl. Net	1.50	2.20	2.00
Zinc plate (one charge) Net	.24	.28	.50
Copper plate (one charge) Net	.28	.31	.62
Paraffin oil (one charge) Net	.05	.06	.06
Complete renewal Net	.72	.82	1.46
Caustic potash (one charge) Net	.15	.17	.28

12456. Battery, Grenet's.

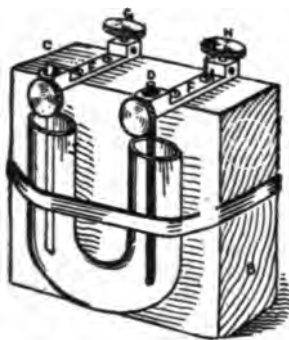
Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2
Each, Complete	1.50	2.30	3.00	4.00
Glass jar	.55	.60	1.00	1.25
Carbon	.40	.50	.80	.90
Zinc	.15	.20	.25	.30

12458. Battery, Grove's.

Size, mm.	110x110
Each, Complete	3.00
Glass jar	.20
Porous cup	.20
Platinum	2.00
Zinc	.50



12460



12466



12462



12464

12460. Battery, Leclanche Disque. The best open current battery.

Each	.60
Glass jar	.35
Porous cup	.15
Zinc, amalgamated	.06
Sal ammoniac (one charge)	.10

12462. Battery, Mesco Dry. An open current battery with superior qualities and long life. Size, 175 mm. high, 65 mm. diameter.

Each \$0.25

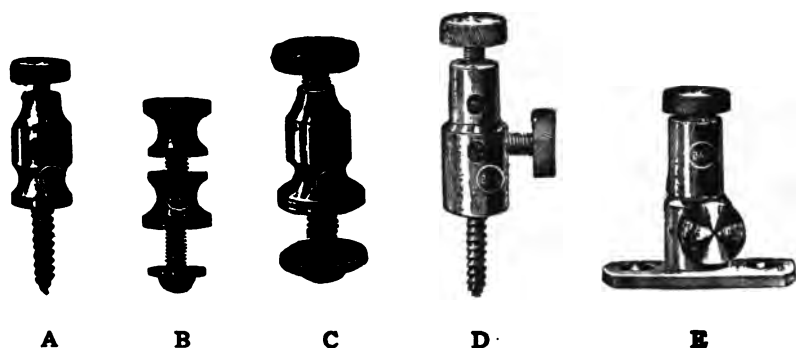
12464. Battery, Plunge. Easily manipulated; parts interchangeable; cells used separately or in series, the connections being quickly made for intensity or quantity.

Number of cells	4	6	
Battery, Complete	17.00	23.00	
Glass jar, 65x105x175 mm.,			.50
Single carbon			.30
Pair of carbons, fastened to brass plate			1.50
Zinc			.30
Bichromate potash fluid (gallon) 4 liters			1.00
Complete set of elements			3.50

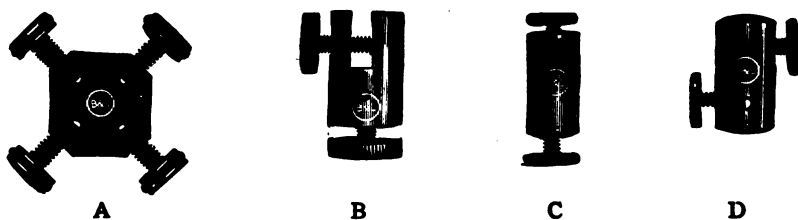
12466. Battery, Skidmore's. Normal School Experiment Cell. For use in the study of primary and secondary batteries. The ease and celerity with which the electrodes and solutions can be changed makes possible a wide and interesting range of work in the elementary laboratory.

Each \$1.00

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



12468



12472

12468. Battery Binding Posts. With either wood or machine screws.

Style	A	B	C	D	E
Each	.16	.20	.12	.25	.35

12470. Battery Brushes.

Each \$0.15

12472. Battery Connectors.

Style	A	B	C	D
Each	.20	.25	.25	.35

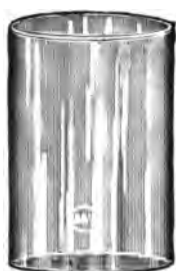
12474. Battery Jars. Of clear white glass, with ground rim.

Capacity, liters	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	$3\frac{1}{2}$
Height, mm.	100	125	150	175	200
Diameter, mm.	100	100	115	125	150
Each	.20	.25	.30	.40	.45
Capacity, liters	3	4	10	16	
Height, mm.	275	225	300	375	
Diameter, mm.	125	150	200	225	
Each	.60	.60	1.00	1.80	

12476. Battery Knives.

Each \$2.20

Battery Porous Cups. See Porous Cups.



12474



12478

12478. Beakers, Aluminum. Of superior finish.

Capacity, cc.	15	30	60	120	250	500	750	1000
Each	.15	.20	.25	.30	.35	.65	.95	1.25

12480. Beakers, Copper. Polished.

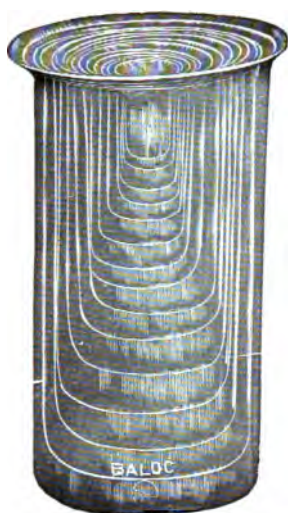
Capacity, cc.	125	250	500	1000	2000
Each	.55	.75	.90	1.20	3.00

12482. Beakers, Copper. Nickel plated.

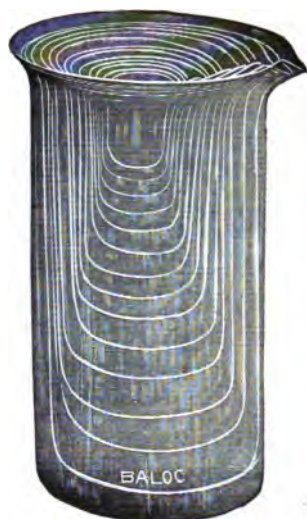
Capacity, cc.	125	250	500	1000	2000
Each	.70	.90	1.10	1.50	3.20

12484. Beakers, Baloc Glass. Usual form. Without lip.

Numbers	000	00	0	1	2	3	4	5
Capacity, cc.	15	25	50	75	100	200	300	400
Each	.06	.07	.08	.10	.12	.15	.18	.20
Numbers	6	7	8	9	10	11	12	
Capacity, cc.	600	800	1000	1500	2000	3000	4000	
Each	.25	.30	.40	.50	.60	.75	1.00	



12486



12490

12486. Beakers, Baloc Glass. Same as No. 12484. Nested as follows:

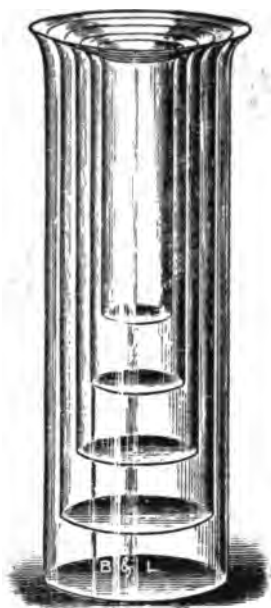
Numbers	000-0	1-3	1-4	1-5	1-6	1-7
Per nest	.20	.35	.55	.75	1.00	1.30
Numbers	1-8	1-9	1-10	1-11	1-12	
Per nest	1.70	2.20	2.80	3.55	4.55	

12488. Beakers, Baloc Glass. Usual form. With lip.

Numbers	000	00	0	1	2	3	4	5
Capacity, cc.	15	25	50	75	100	200	300	400
Each	.06	.07	.08	.10	.12	.15	.18	.20
Numbers	6	7	8	9	10	11	12	
Capacity, cc.	600	800	1000	1500	2000	3000	4000	
Each	.25	.30	.40	.50	.60	.75	1.00	

12490. Beakers, Baloc Glass. Same as No. 12488. Nested as follows:

Numbers	000-0	1-3	1-4	1-5	1-6	1-7
Per nest	.20	.35	.55	.75	1.00	1.30
Numbers	1-8	1-9	1-10	1-11	1-12	
Per nest	1.70	2.20	2.80	3.55	4.55	



12492

12492. Beakers, Baloc Glass. Extra tall.

Capacity, cc.	150	250	350	500	750	1200	1800	2400
Each	.12	.15	.20	.25	.30	.40	.45	.75

12494. Beakers, Baloc Glass. Griffin's low form, without lip.

Numbers	000	00	0	1	2	3	4	5
Capacity, cc.	20	50	100	150	200	350	500	750
Each	.08	.09	.10	.12	.15	.20	.25	.30
Numbers		6	7	8	9	10	11	12
Capacity, cc.		1000	1500	2000	2500	3000	4000	5000
Each		.40	.50	.60	.70	.80	1.00	1.50

12496. Beaker's, Baloc Glass. Same as No. 12494. Nested as follows:

Numbers	000-0	1-2	1-3	1-4	1-5	1-6
Per nest	.25	.25	.45	.70	1.00	1.40
Numbers	1-7	1-8	1-9	1-10	1-11	1-12
Per nest	1.90	2.50	3.20	4.00	5.00	6.50

12498. Beakers, Baloc Glass. Griffin's low form, with lip.

Numbers	000	00	0	1	2	3	4	5
Capacity, cc.	20	50	100	150	200	350	500	750
Each	.08	.09	.10	.12	.15	.20	.25	.30
Numbers		6	7	8	9	10	11	12
Capacity, cc.		1000	1500	2000	2500	3000	4000	5000
Each		.40	.50	.60	.70	.80	1.00	1.50



12500



12504

12500. Beakers, Baloc Glass. Same as No. 12498. Nested as follows:

Numbers	000-0	1-2	1-3	1-4	1-5	1-6
Per nest	.25	.25	.45	.70	1.00	1.40
Numbers	1-7	1-8	1-9	1-10	1-11	1-12
Per nest	1.90	2.50	3.20	4.00	5.00	6.50

12502. Beakers, Jena Glass. Usual form. Without lip.

Capacity, cc.	50	100	150	200	300	400	500	600
Each	.15	.18	.20	.22	.28	.30	.35	.40
Capacity, cc.	800	1000	1300	1500	2000	2500	3000	4000
Each	.42	.45	.55	.60	.65	.80	.90	1.10

12504. Beakers, Jena Glass. Usual form. With lip.

Capacity, cc.	50	100	150	200	300	400	500	600
Each	.15	.18	.20	.22	.28	.30	.35	.40
Capacity, cc.	800	1000	1300	1500	2000	2500	3000	4000
Each	.42	.45	.55	.60	.65	.80	.90	1.10

12506. Beakers, Jena Glass. Griffin's low form, with lip.

Numbers	1	2	3	4	5	6	7	8	9
Capacity, cc.	50	100	150	250	400	600	800	1000	1300
Each	.15	.18	.20	.25	.30	.40	.45	.50	.60

12508. Beakers, Phillip's. Conical shape, without lip.

Numbers	1	2	3	4	5
Capacity, cc.	100	250	500	750	1000
Each	.10	.15	.25	.30	.40



12514



12510



12513



12516

12510. Beakers, Phillip's. Conical shape, with lip.

Numbers	1	2	3	4	5
Capacity, cc.	100	250	500	750	1000
Each	.10	.15	.25	.30	.40

12512. Beakers, Imperial Berlin Porcelain. With lip; glazed inside and outside.

Capacity, cc.	100	200	325	500	700	1000
Each	.35	.40	.50	.75	1.00	1.25

12513. Beakers with Ground Labels. Any of the above beakers will be furnished with neat ground labels for pencil notes.

Size of beakers, 500 cc. or smaller. Larger than 500 cc.

Each, extra to prices of beakers .05 .06

Beaker Covers. See WATCHGLASSES AND GLASS PLATES.

12514. Bell Glasses. Of clear white glass, with knob.

Height, mm.	40	45	50
Diameter, mm.	75	90	100
Each	.35	.40	.50

12516. Bell Glasses. Of heavy clear white glass, with ground rim.

Height, mm.	80	105	130	180	235
Diameter, mm.	80	105	130	155	185
Each	.50	.60	.75	1.00	1.25



12518



12522



12520



12524

12518. Bell Glasses, High Form. With ground rim. The larger sizes are very useful for covering microscopes, etc.

Capacity, liters	$\frac{1}{2}$	1	2	3	4	9
Height, mm.	150	175	200	250	300	350
Diameter, mm.	75	85	110	125	150	200
Each	.60	.80	1.00	1.00	1.25	1.50
Capacity, liters	6	8	14	12	20	
Height, mm.	365	400	425	460	500	
Diameter, mm.	165	180	225	210	250	
Each	1.50	1.75	2.50	2.50	5.00	

12520. Bell Glasses, Low Form. Of heavy, clear white glass, with ground rim.

Height, mm.	40	65	90	100	110
Diameter, mm.	75	100	125	150	175
Each	.50	.60	.75	1.00	1.25
Height, mm.	125	150	175	240	275
Diameter, mm.	200	225	250	300	400
Each	1.50	1.75	2.00	4.00	8.00

12522. Bell Glasses, Low Form. Of heavy, clear white glass.

Height, mm.	100	120	150	180
Diameter, mm.	200	240	300	400
Each	.50	1.25	2.00	4.00

12524. Bell Glasses, Open Top. Narrow neck for brass cap. Of clear white glass, with ground rim.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3
Height, mm.	155	150	175	200	225
Diameter, mm.	50	75	85	100	125
Each	.60	.70	.80	.90	1.00



12528



12530



12532

Capacity, liters	4	8	6	12	20
Height, mm.	300	300	365	400	450
Diameter, mm.	150	200	165	210	250
Each	1.20	1.50	1.50	1.50	2.50

12526. Bell Glasses, Open Top. Wide neck. Of clear white glass, with ground rim.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3
Height, mm.	155	150	175	200	225
Diameter, mm.	50	75	85	110	125
Each	.65	.70	.80	.90	1.00
Capacity, liters	4	8	6	8	20
Height, mm.	300	300	365	400	450
Diameter, mm.	150	200	165	185	250
Each	1.20	1.50	1.50	1.50	2.50

12528. Bell Glasses, Open Top. With glass stopper.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3
Height, mm.	155	150	175	200	225
Diameter, mm.	50	75	85	110	125
Each	.70	.75	.90	1.00	1.20
Capacity, liters	$3\frac{1}{2}$	4	8	12	20
Height, mm.	200	300	300	400	450
Diameter, mm.	150	150	200	210	250
Each	1.20	1.40	1.50	1.75	2.00

12530. Bell Glasses, Open Top. With stop cock ground into neck.

Height, mm.	180	235	285
Diameter, mm.	80	105	130
Each	1.50	2.00	2.50

12532. Bell Glasses, Open Top. With tubulature near bottom.

Capacity, liters	2	4	8	6	8
Height, mm.	200	300	300	365	400
Diameter, mm.	110	150	200	165	185
Each	2.00	2.50	3.25	3.50	4.25



12534



12542



12536



12540

12534. Bell Glasses, Swelled Form. With knob and ground rim.								
Capacity, liters	$\frac{1}{2}$	1	2	4	8	12	20	
Diameter of base, mm.	75	100	125	150	175	215	250	
Each	.70	.80	.90	1.20	1.50	2.50	6.00	

12536. Bell Glasses, Double Walled. For physiological work. The jar may be filled with colored fluid acting as a ray filter for determining the effect of various rays on plant functions, etc.		
Height, mm.	300	400
Diameter, mm.	120	150
Each	6.00	7.00

Any of the above **Bell Glasses** graduated to order, at 1 to 3 dollars extra.

Bellows. See BLOWERS.

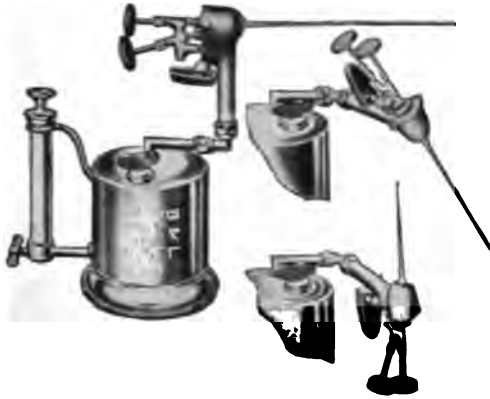
Binding Posts and Screws. See BATTERY BINDING POSTS AND B. B. SCREWS.

12538. Bladders, Animal. Assorted sizes. **Per ten, \$0.60 to \$0.90**

12540. Blast Lamp, Alcohol. Automatic; vertical blast; made of heavy copper.

Sizes	Small	Large
Each	2.00	2.75

12542. Blast Lamp, Alcohol. Automatic; horizontal blast; made of brass and copper; with safety valve. **Each \$2.75**



12544



12545

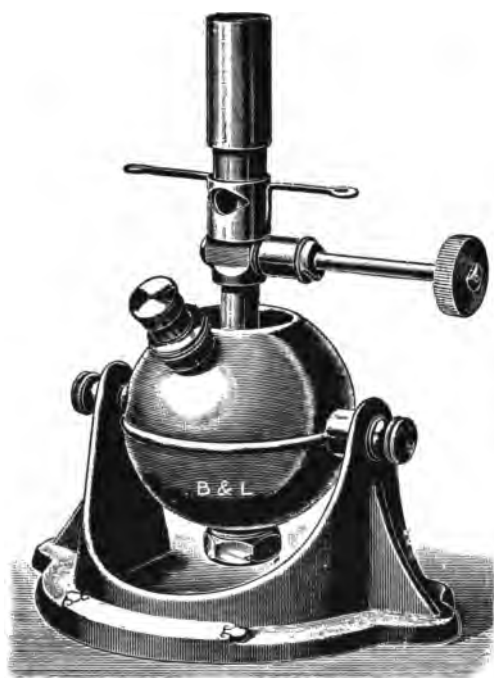


12546

12544. Blast Lamp, Alcohol, Turner's Double-Jet. A new blowpipe so constructed as to obtain the maximum degree of heat from wood alcohol, and produce a constant needle flame, without the use of bellows. Reservoir is 90 mm. in diameter and 100 mm. high; capacity 500 cc. Finished in nickel plate and complete with attachments as shown in illustration. **Each \$7.50**

12545. Blast Lamp, Barthel's. For alcohol. Absolutely safe; produces an intense heat, surpassing the Bunsen burner. Invaluable for laboratories where gas is not available. With tripod. **Each, Net \$3.75**

12546. Blast Lamp, Barthel's. For benzine. Same construction as above. **Each, Net \$4.00**



12548



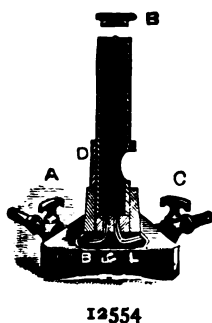
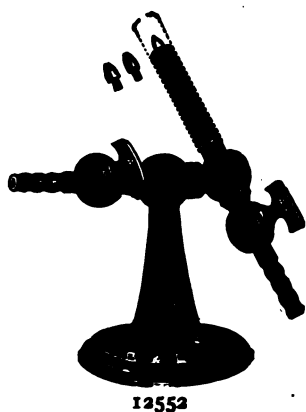
12550

12548. Blast Lamp, Barthel's. For benzine or gasoline. Will produce an intense temperature, is easily operated, and absolutely safe. Swiveled to a heavy base so that flame can be directed to any angle.

Each, Net \$6.75

12550. Blast Lamp, Boyce's. For gas. With clamp for attachment to apparatus support and for adjustment of burner tube to any desired angle.

Each \$1.50



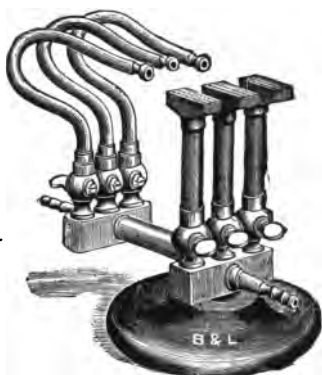
- 12551. Blast Lamp, Bunsen's.** For acetylene gas. This is the only satisfactory burner for acetylene gas and is guaranteed to give excellent results. **Each \$4.50**
- 12552. Blast Lamp, Bunsen's.** For gas. Adjustable; with separate stop cocks for controlling air and gas. Improved form with movable sleeve and three tips. **Each \$3.75**
- 12554. Blast Lamp, Bunsen's.** For high temperature. This is a Bunsen burner combined with a powerful blowpipe, and is one of the most generally useful arrangements known for the chemical laboratory. Total height, 160 mm. **Each \$4.25**
- 12556. Blast Lamp, Fletcher's Compound.** The range of this burner, from a delicate pointed jet to a large flame, is sufficient for all glass work. A powerful blower, such as No. 12588 or No. 12590 is required with this burner. **Each \$10.00**



12558



12560



12562



12566

Blast Lamp, Glass Blowers. For large glass tubing. Supplied with round base as shown in No. 12558, or on legs for attachment to table as No. 12566 or No. 12572. The blast and gas supply tubes, each controlled by separate stop cock, are arranged either in horizontal position (No. 12566), or in vertical position (No. 12572), so that they pass through the table and connect with tubing below and out of the way of the operator.

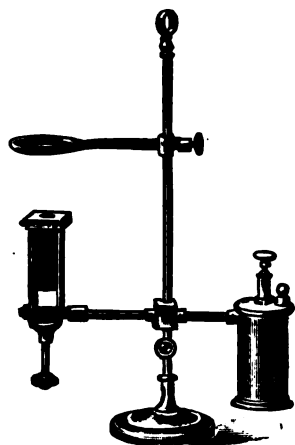
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| 12558. Blast Lamp, Glass Blowers'. | Set of two one-light burners on round bases. | Each, Net \$4.50 |
| 12560. Blast Lamp, Glass Blowers'. | Set of two two-light burners on round bases. | Each, Net \$7.50 |
| 12562. Blast Lamp, Glass Blowers'. | Set of two three-light burners on round bases. | Each, Net \$10.00 |
| 12564. Blast Lamp, Glass Blowers'. | Set of two one-light burners on legs, tubes horizontal. | Each, Net \$4.00 |
| 12566. Blast Lamp, Glass Blowers'. | Set of two two-light burners on legs, tubes horizontal. | Each, Net \$7.00 |
| 12568. Blast Lamp, Glass Blowers'. | Set of two three-light burners on legs, tubes horizontal. | Each, Net \$10.00 |
| 12570. Blast Lamp, Glass Blowers'. | Set of two one-light burners on legs, tubes vertical. | Each, Net \$4.00 |



12572



12580



12582



12576

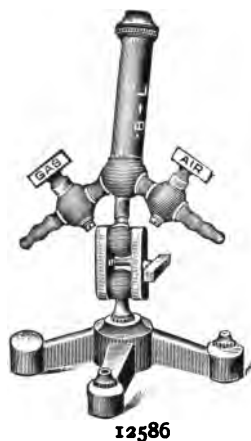


12578



12584

- 12572. Blast Lamp, Glass Blowers'.** Set of two two-light burners on legs, tubes vertical. **Each, Net \$7.00**
- 12574. Blast Lamp, Glass Blowers'.** Set of two three-light burners on legs, tubes vertical. **Each, Net \$10.00**
- 12576. Blast Lamp, Glass Blowers'.** Tips for above lamps, flat top. **Each, Net \$0.30**
- 12578. Blast Lamp, Glass Blowers'.** Tips for above lamps, concave. **Each, Net \$0.30**
- 12580. Blast Lamp, Hoskin's.** Automatic Laboratory. For fusions in platinum crucibles, ignitions, evaporations, glass blowing, etc. The heat is quickly varied from a blast burner to the smallest Bunsen flame. Complete with three tubes for different size and shape of flame. **Each, Net \$10.00**
- 12582. Blast Lamp, Hoskin's.** Improved Automatic Laboratory Adjustable. Suitable for all purposes where Bunsen burners, alcohol lamps or blast burners may be used. Quickly regulated from a powerful blast to a small Bunsen flame. **Each, Net \$15.00**
- 12584. Blast Lamp, Kerosene.** This lamp will be found invaluable in laboratories not provided with gas, where a high heat of large volume is desired. It burns kerosene of any gravity. **Each \$6.00**



12585. Blast Lamp, Turner Gasoline. The burner of this blast lamp is made with swivelled connection so that the flame can be pointed up or down in any direction. The flame is adjustable from almost nothing to 150 mm. The reservoir is 100 mm. high and 90 mm diameter, with a capacity of about 500 cc. One filling is sufficient to operate the lamp for from 4 to 6 hours. The handle forms the pump for producing air pressure in the reservoir. With the reservoir half filled one pumping of air will operate the lamp continuously for 1 to 1½ hours. This lamp is provided with a Light Attachment which holds a mantle and fits over the burner, changing the heat flame to an incandescent illuminating lamp of 400 to 500 candle power. It may also be fitted with the Turner Manyscope which is a specially constructed aluminum chimney or hood serving to concentrate the light over a definite area. Complete outfit, consisting of blast lamp, light attachment, 45° manyscope and 90° manyscope with condensing lens, in specially constructed carrying case.

	Each	\$12.50
a. Blast Lamp only		\$4.00
b. Light attachment		\$2.00
c. Manyscope 45°		\$1.50
d. Manyscope 90° with lens		\$2.50

12586. Blast Lamp, Wiesnegg's, or French Form. With ball joint for adjustment to any position, and stop cocks for air and gas supply.

Each \$4.50



12588



12590



12594

Blood Apparatus. See HAEMACYTOMETERS, HAEMAGLOBINOMETERS, AND CENTRIFUGES.

12588. Blowers, Fletcher's Foot Power. These blowers produce a powerful and continuous blast, the pressure of which may be increased by adding one or more rubber discs to the air reservoir.

	A	B	C
Diameter of air reservoir, mm.	180	225	275
Each	4.80	6.00	8.40

12590. Blowers, Fletcher's Foot Power. Mounted on legs.

	A	B	C
Diameter of air reservoir, mm.	180	225	275
Each	6.00	7.20	9.60

12591. Blowers, Fletcher's Foot Power, Extra rubber discs for.

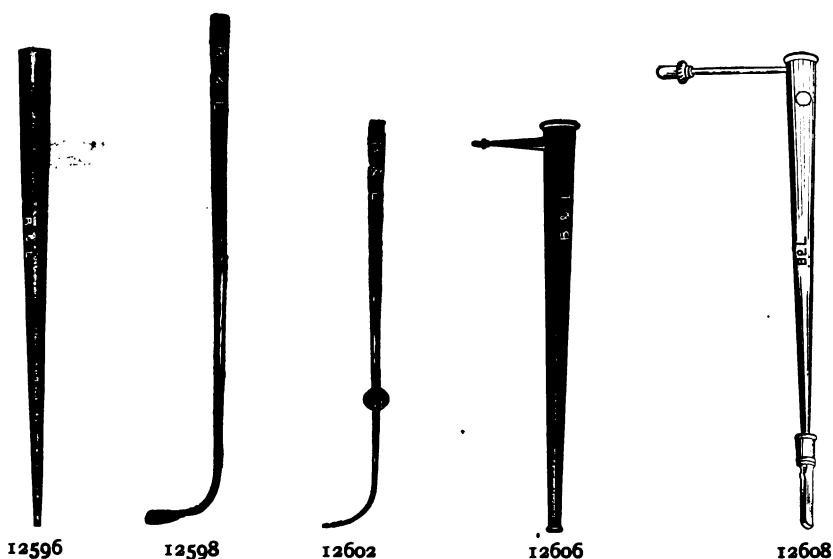
Diameter, mm.	180	225	275
Each	.50	.75	1.00

12592. Blowers, Fletcher's Foot Power, Extra nets for.

Each \$0.45

12594. Blowers, Hand. For use with blowpipes and wherever a continuous air blast is required.

Each \$1.35



12596.	Blowpipe.	Of nickeled metal, 120 mm. long.	Each	\$0.20
12598.	Blowpipes.	Of brass.		
	Length, mm.	150 175 200 225 250 300 350		
	Each	.06 .07 .08 .09 .10 .12 .15		
12600.	Blowpipes.	Same as No. 12598. Nickel plated.		
	Length, mm.	150 175 200 225 250 300 350		
	Each	.15 .16 .17 .18 .20 .22 .25		
12602.	Blowpipes.	Of brass, with air chamber.		
	Length, mm.	150 175 200 225 250 300 350		
	Each	.15 .16 .17 .18 .20 .22 .25		
12604.	Blowpipes.	Same as No. 12602. Nickel plated.		
	Length, mm.	150 175 200 225 250 300 350		
	Each	.25 .27 .28 .30 .32 .35 .40		
12606.	Blowpipes, Black's.	Of japanned tin, with detachable brass tip.	Each	\$0.15
12608.	Blowpipes, Black's.	Of brass, with screwed-on tip, and wooden mouthpiece.	Each	\$0.50



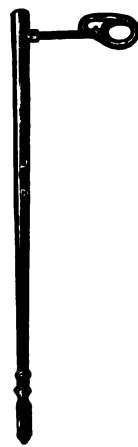
12610



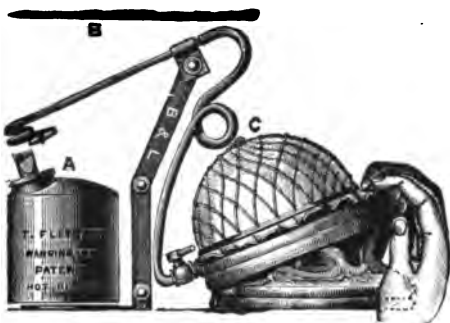
12612



12614



12616



12618

- 12610. Blowpipes, Fletcher's Automatic Hand.** The blowpipe may be detached from the support and used in the hand if desired. Require No. 12588B or No. 12590B blower for small size, and No. 12588C or No. 12590C for the large size.

Sizes	Small	Large
Each	4.80	6.60

- 12612. Blowpipe, Fletcher's Brazing.** With lever stop cocks for air and gas.

Each \$1.75

- 12614. Blowpipe, Fletcher's Hot Blast.** Of brass, with hard rubber mouth-piece.

Each \$0.90

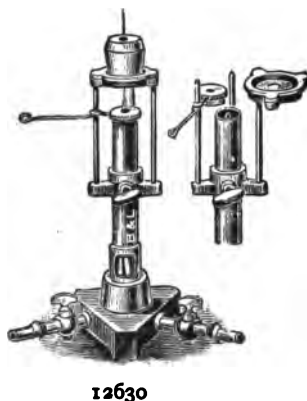
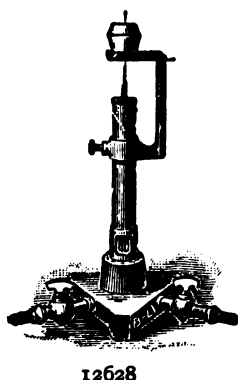
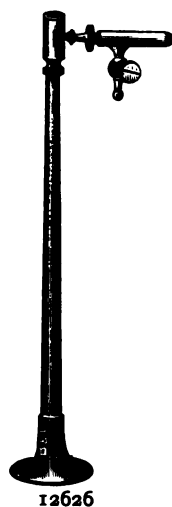
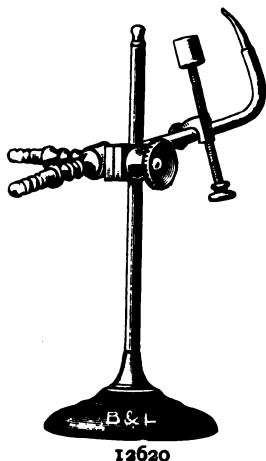
- 12616. Blowpipe, Fletcher's Hot Blast.** For chemical work. Of brass, with hard rubber mouth-piece.

Each \$1.50

- 12618. Blowpipe, Fletcher's Special Chemical.** With folding stand adjustable to any height or angle. Can be used either as a mouth blowpipe or with blower as illustrated. With this blowpipe is supplied one jet with and one jet without the hot blast coil, with which a large range of flame may be obtained.

Each \$5.75

- 12620. Blowpipe, Oxyhydrogen.** Of brass, with adjustable line holder. (See illustration, page 78.)



12622. **Blowpipe, Oxyhydrogen.** With two stop cocks. Each \$7.00
 12624. **Blowpipe, Plattner's.** Nickel plated; with hard rubber mouth-piece and platinum tip. Each \$2.25
 12626. **Blowpipe, Plattner's.** With blast attachment for gas, and platinum tip. Each \$3.25

Blowpipe Furnace, Fletcher-Plattner's. For capsules or crucibles 18 mm. diameter. Made of non-conducting fire-clay. Two forms of furnace support may be supplied: The Fletcher support, made of one casting, with a thin metal plate for the furnace to rest upon; the Lewis support, placed on a substantial tripod and so arranged that the furnace is self-centering. With the use of a Fletcher's Foot Blower, 100 grains of cast iron can be perfectly fused in two minutes.

12628. **Blowpipe Furnace with Bunsen Blast and Fletcher's Support.** Each \$5.00
 12630. **Blowpipe Furnace with Bunsen Blast and Lewis Support.** Each \$5.75

1263a. Blowpipe Furnace, alone, with bottom or side hole, and one crucible.
 Each \$0.30

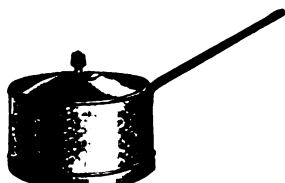
12634. Blowpipe Apparatus. According to Professor Plattner, for qualitative and quantitative blowpipe analysis.

1. Anvil of best polished steel	\$0.40
2. Asbestos Blocks .....	.75
3. Asbestos Block Holder .....	.30
4. Beakers, 20 to 100 cc. ....	.30
5. Blowpipe, Black's .....	.15
6. Blowpipe, 150 mm. 250 mm. 300 mm. Each .06 .10 .12	
7. Blowpipe, 150 mm. 250 mm. 300 mm. Each .15 .20 .22	
8. Blowpipe, folding in case, 140x30x12 mm. with both hot and cold blast jets (hard rubber mouth piece) ..	1.20
9. Blowpipe, Plattner's brass, with movable platinum tip..	2.25
10. Blowpipe, Plattner's, without platinum tip	1.35
11. Blowpipe Lamp, polished brass	1.10
12. Blowpipe Lamp, nickel plated	1.20
13. Blowpipe Lamp, tin, for tallow .....	.35
14. Burner, Bunsen's, with tip and tube for blow-piping ..	.60
15. Button Brush .....	.50
16. Capsules, porcelain .....	.25
17. Carbon Blocks, moulded .....	.30
18. Carbon Block Holder .....	.30
19. Carbon Cylinder, moulded, 75x28 mm.....	.20
20. Charcoal Borer, club shape, large.....	.75
21. Charcoal Borer, four cornered, small .....	.45
22. Charcoal Borer, with spatula .....	.50
23. Charcoal Capsules	per ten .20
24. Charcoal Crucibles	per ten .20
25. Charcoal Capsules	per ten .20
26. Charcoal Holder, with platinum wire and shield...Each	3.00
27. Charcoal Square	per ten .80
28. Charcoal Square Covers	per ten .50
29. Charcoal, natural	per ten .50
30. Clay Capsules	per ten .20
31. Clay Crucibles	per ten .20
32. Cupel Holder, with two moulds and one stamp	1.70
33. Dishes, of porcelain, three in set .....	.35
34. Dropping Bottle .....	.15
35. Dropping Tube .....	.10
36. Files, Round and Triangular, with handles.....	.30
37. Forceps, brass, straight .....	.20
38. Forceps, brass, bent .....	.20
39. Forceps, brass, bent, with ivory tips .....	.90
40. Forceps, brass, Plattner's form, with ivory tips	1.20
41. Forceps, brass, Plattner's form, with platinum point..	2.00

41. Forceps, brass, nickel plated, French form, with platinum point	2.00
42. Forceps, steel, for blowpipe lamp .....	.20
43. Forceps, boxwood, for paper cylinder .....	.15
44. Hammers, Plattner's, with wooden handle.....	.60
45. Hammers, Plattner's, polished, wire handle.....	.75
46. Holder, for platinum wire .....	.80
47. Holder, as above, with six wires	1.25
48. Ivory Spoon .....	.25
49. Lamp, glass, for alcohol .....	.30
50. Lamp, brass, for alcohol .....	.40
51. Magnet, horseshoe .....	.10
52. Magnet .....	.25
53. Magnifier, with one lens .....	.20
54. Magnifier, with two lenses .....	.35
55. Magnifier, with three lenses .....	.50
56. Matrasses, of Bohemian glass, with bulb .....per ten	.70
57. Matrasses, of German glass, flask shape .....per ten	.25
58. Matrass Holder .....	.35
59. Mortar, agate, with pestle	1.70
60. Mortar, steel, Plattner's diamond, small.....	4.00
61. Mortar, steel, Plattner's, diamond, large	6.00
62. Mortar, Leed's form	2.00
63. Moulds, of brass, for clay crucibles	4.00
64. Moulds, of boxwood, for clay crucibles	1.20
65. Moulds, of boxwood, for clay crucibles .....	.75
66. Nippers, flat nose .....	.50
67. Platinum foil	Net .50
68. Platinum wire	Net .50
69. Platinum crucible	(approximately) Net 4.50
70. Platinum spoon	(approximately) Net 2.50
71. Pliers, for assay buttons .....	.75
72. Scale, Plattner's, of ivory, for silver beads	3.00
73. Scissors, for lamp .....	.50
74. Shears, for cutting metal	1.00
75. Silver Foil	per 25 grams Net 1.25
76. Soda Papers .....	.20
77. Stirrers, of glass .....	.25
78. Streak Plate .....	.25
79. Test Lead Measure .....	.50
80. Test Lead Sieve	1.00
81. Test Tubes	per ten .25
82. Test Tube Holder .....	.15
83. Test Tube Supports .....	.45
84. Tubes, hard glass, open at both ends.....per ten	.50
85. Tubes, for arsenic reduction.....per ten	.40
87. Watch Glass Clip .....	.15
88. Wicks, for lamps	per bundle .10



12636



12638



12640



12642



12644



12646

12636. Boilers, Agateware. Agate nickel steel, seamless, with retinned cover and patent bottom which prevents scorching of contents and renders the vessel more durable. With bale handle.

Capacity (approx.) liters	1	2	3	5
Height, mm.	95	100	110	125
Diameter, mm.	145	170	200	225
Each	.90	1.05	1.25	1.40

12638. Boilers, Agateware. Agate nickel steel, seamless, with retinned cover and patent bottom which prevents scorching of contents and renders the vessel more durable. With side handle.

Capacity (approx.) liters	1	2	3	5
Height, mm.	95	100	110	125
Diameter, mm.	145	170	200	225
Each	.90	1.05	1.25	1.40

12640. Boilers, Agateware. Agate nickel steel, seamless, deep, with retinned cover.

Capacity (approx.) liters	1	2	4	6
Height, mm.	95	115	150	160
Diameter, mm.	125	140	175	215
Each	.65	.70	1.05	1.40

12642. Boilers, Agateware Double. Agate nickel steel, with retinned cover. Capacity of inside boiler (approx.) liters

	1½	4
Each	1.75	2.80

12644. Boilers, Agateware Double. Agate nickel steel, seamless, with retinned cover which fits both vessels.

Capacity of inside boiler (approx.) liters	2	4
Each	1.65	2.45



12654



12656

- 12646. Boilers, Agateware Double, Extra Large.** Agate nickel steel, seamless, with retinned cover which fits both vessels. (See illustration, page 81.)

Capacity of inside boiler (approx.) liters	6	9	14
Each	2.40	3.15	4.20

- 12646a. Botanical Adhesive Tape.** For fastening specimens to mounting paper; on spool, 12 mm. wide, 900 mm. long. **Per spool \$0.35**

- 12647. Botanical Drying Paper.** Superior quality; as used by the Department of Agriculture and other prominent herbaria. This paper, being made of pure cotton stock similar to blotting paper, absorbs the moisture much more readily than the driers usually supplied which contain a certain percentage of wood. **Per hundred \$2.00**

- 12648. Botanical Drying Paper.** Extra heavy, 330 x 460 mm. **Per hundred \$1.50**

- 12650. Botanical Genus Covers.** Extra quality and weight, 425 x 610 mm. Surface specially prepared for writing upon. **Per hundred \$2.50**

- 12652. Botanical Mounting Paper.** This paper, as well as the Driers and Genus Covers, is made specially for us in very large quantities, and we have used in it the purest, strongest stock, producing a mount which has that desirable stiffness and "backbone" so seldom found in mounting papers. The color is very white and does not change with age, as papers made of impure stock are sure to do. Size 290 x 420 mm. **Per ream, 500 sheets \$5.50**

- 12653. Botanical Pressing Paper.** Best white, folded and trimmed. **Per ream \$1.50**

- 12654. Botanical Portable Plant Press.** This press is light and strong, and may be carried into the field with ease. Elastic bands prevent disarrangement of specimens and unused driers when the press is opened. With six driers. **Each \$2.00**

- 12656. Botanical Vasculum or Collecting Case.** Of metal, enameled, with door opening along entire length. Size 400 x 200 x 130 mm. Supplied with shoulder strap. **Each \$1.50**



BOTTLES

12658. Bottles, Narrow Mouth. Flint glass; for cork stoppers.

Capacity, cc.	15	30	50	75	100	150	250	375	500	1000
Per ten	.20	.25	.30	.35	.40	.45	.55	.70	.85	1.30

12660. Bottles, Narrow Mouth. Amber glass; for cork stoppers.

Capacity, cc.	30	50	100	250	500	1000
Per ten	.20	.30	.40	.55	.75	1.10

12662. Bottles, Narrow Mouth. Green glass; for cork stoppers.

Capacity, cc.	250	500	1000	2000	4000	8000
Per ten	.40	.65	1.00	1.70	2.55	5.65

12664. Bottles, Wide Mouth. Flint glass; for cork stoppers.

Capacity, cc.	15	30	50	75	100	150	250	375	500	1000
Per ten	.28	.30	.35	.40	.45	.50	.60	.70	.90	1.30

12666. Bottles, Wide Mouth. Amber glass; for cork stoppers.

Capacity, cc.	30	50	100	250	500	1000
Per ten	.25	.30	.40	.45	.80	1.10

12668. Bottles, Wide Mouth. Green glass; for cork stoppers.

Capacity, cc.	250	500	1000	2000	4000	8000
Per ten	.45	.70	1.00	1.65	2.60	5.70

12670. Bottles, Extra Wide Mouth. For cork stopper. Narrow shoulder

Capacity, cc.	50	75	125	175
Per ten	.55	.65	.80	1.00

12672. Bottles, Extra Wide Mouth. Flint glass; for cork stoppers.

Capacity, cc.	15	30	60	90	120
Per ten	.25	.30	.35	.40	.45



12674



12676



12678



12682

12674. Bottles, Tincture or Narrow Mouth. Flint glass; with mushroom glass stopper.

Capacity, cc.	15	30	50	75	100	150	250	375
Per ten	.75	.80	.95	1.00	1.10	1.25	1.45	1.70
Capacity, cc.	500	1000	2000	4000	8000	12000		
Per ten	2.10	2.80	5.25	8.25	15.00	27.00		

12676. Bottles, Tincture or Narrow Mouth. German flint glass; with flat glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.05	1.20	1.35	1.90	2.40	3.50	4.70

12678. Bottles, Tincture or Narrow Mouth. German flint glass; with flat head glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.05	1.20	1.35	1.90	2.40	3.50	4.70

12680. Bottles, Tincture or Narrow Mouth. German amber glass; with flat head glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.15	1.35	1.50	2.10	2.65	3.75	5.15

12682. Bottles, Tincture or Narrow Mouth. Flint glass; with flat head glass stopper.

Capacity, cc.	15	30	50	75	100	150
Per ten	.75	.80	.95	1.00	1.10	1.25
Capacity, cc.	250	375	500	1000	2000	
Per ten	1.45	1.70	2.10	2.80	4.50	

12684. Bottles, Tincture or Narrow Mouth. Amber glass; with flat head glass stopper.

Capacity, cc.	30	50	100	250	500	1000	2000
Per ten	.80	.95	1.10	1.45	2.10	2.80	4.50



12686



12688



12690



12692

12686. Bottles, Tincture or Narrow Mouth. Green glass, for acids; with flat head glass stopper.

Capacity, cc.	250	500	1000	2000	4000	8000
Per ten	.95	1.20	1.65	2.75	3.65	6.65

12688. Bottles, Salt or Wide Mouth. Flint glass; with mushroom glass stopper.

Capacity, cc.	15	30	50	75	100	150	250	375	500	1000
Per ten	.75	.80	.95	1.00	1.10	1.25	1.45	1.70	2.10	2.80

12690. Bottles, Salt or Wide Mouth. German flint glass; with flat glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.15	1.35	1.50	2.10	2.65	3.75	5.15

12692. Bottles, Salt or Wide Mouth. German flint glass; with flat-head glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.15	1.35	1.50	2.10	2.65	3.75	5.15

12694. Bottles, Salt or Wide Mouth. German amber glass; with flat-head glass stopper.

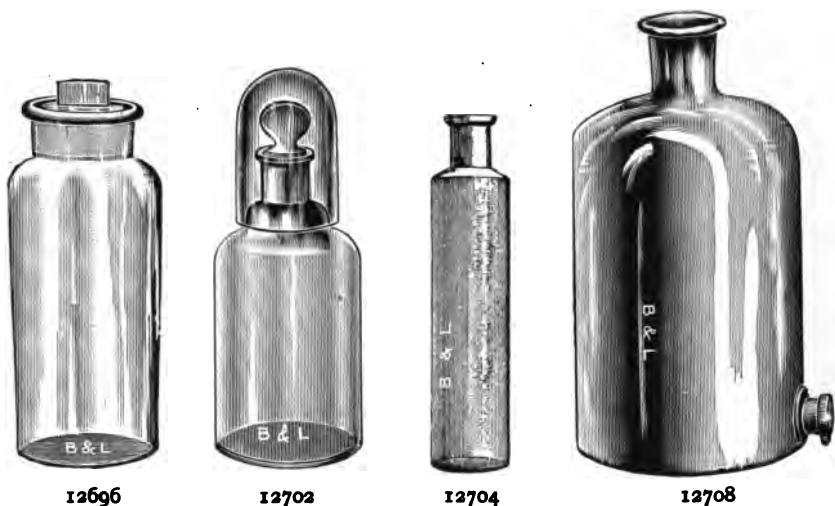
Capacity, cc.	30	60	125	250	500	1000	2000
Per ten	1.25	1.50	1.75	2.25	3.00	4.00	5.75

12696. Bottles, Salt or Wide Mouth. Flint glass; with flat-head glass stopper. (See illustration, page 86.)

Capacity, cc.	15	30	50	75	100	150	250	375	500	1000
Per ten	.75	.80	.95	1.00	1.10	1.25	1.45	1.70	2.10	2.80

12698. Bottles, Salt or Wide Mouth. Amber glass; with flat-head glass stopper.

Capacity, cc.	30	50	100	250	500	1000
Per ten	.80	.95	1.10	1.45	2.10	2.80



12700. Bottles, Salt or Wide Mouth. Flint glass; with extra wide mouth.

Capacity, cc.	50	75	125	175
Per ten	1.80	2.40	2.75	2.90

12702. Bottles. Flint glass; with ground glass stopper and cap ground on

Capacity, cc.	30	50	100	250	500	1000
Each	.30	.35	.40	.60	.70	.75

12704. Bottles. For samples of oils and other liquids.

Capacity, cc.	30	60	125	250
Per ten	.35	.50	.75	1.10

12706. Bottles. Style No. 12704, with ground and polished bottoms. Capacity, 125 cc. **Per ten \$1.30**

Bottles with Ground Labels. Any of the above bottles will be furnished with neat ground labels for pencil notes, on order.

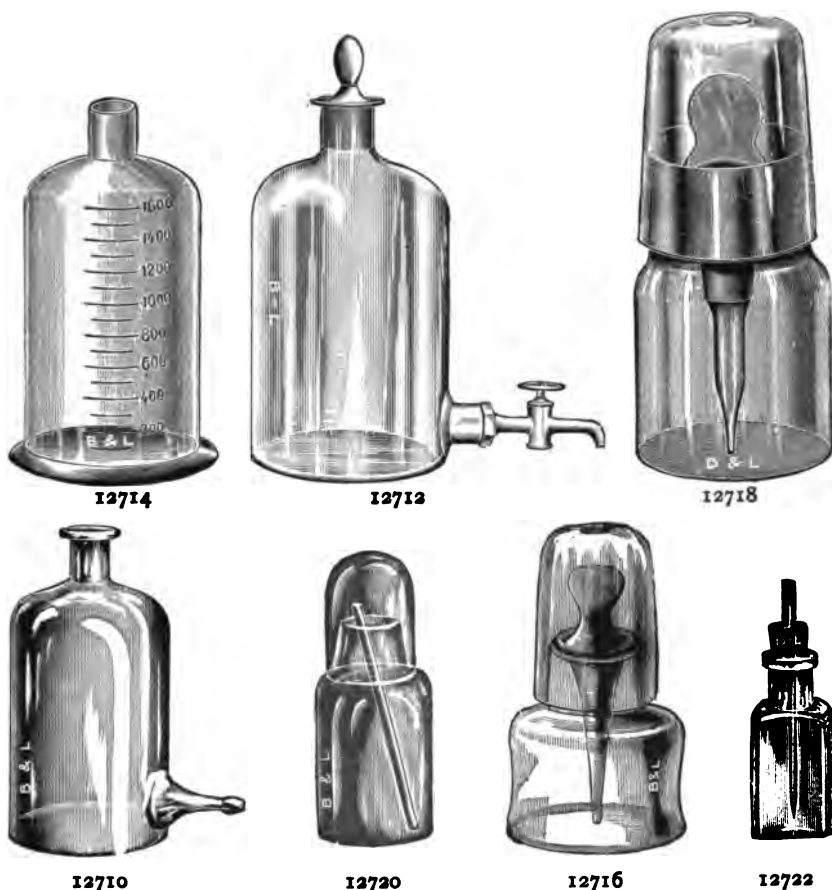
Capacity of bottles, cc.	15 to 250	375 to 8000
Extra, per ten	.30	.50

12708. Bottles, Aspirator. Of heavy white glass, with outlet near bottom.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4
Each	.40	.45	.65	.85	1.30
Capacity, liters	6	8	12	15	20
Each	2.00	2.25	3.50	4.25	6.40

12710. Bottles, Aspirator. Of heavy white glass, with outlet tube near bottom formed into nipple for attaching rubber tubing.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	6	8	12
Each	.40	.45	.65	.85	1.30	2.00	2.25	3.50



12712. Bottles, Aspirator. With ground glass stopper and glass stop cock ground into outlet.

Capacity, liters	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	6	8	12
Each	1.60	1.80	2.00	2.40	3.65	4.75	6.00	9.00

12714. Bottles, Aspirator. Graduated. Of heavy white glass, with neck ground inside.

Capacity, liters	$\frac{1}{2}$	1	2
Each	1.20	1.75	2.00

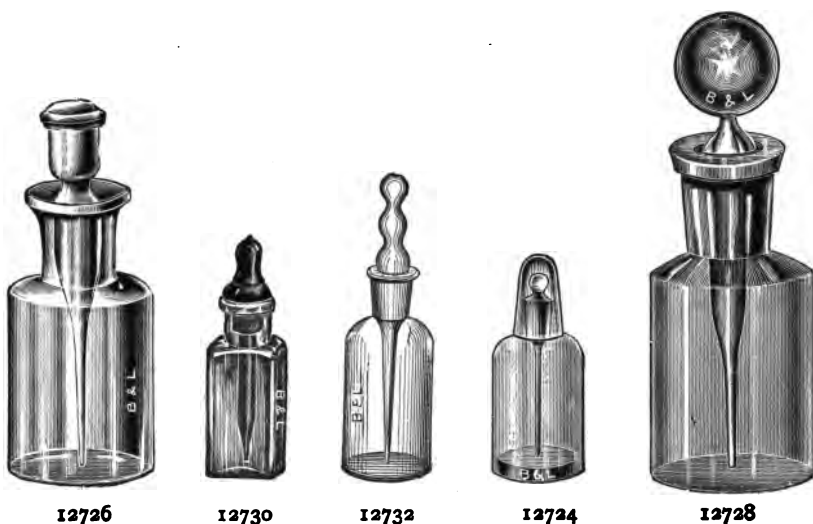
12716. Bottles, Balsam. With glass balsam dropper fitting loosely in the neck of the bottle and with glass cap ground on. Capacity, 45 cc.
Each \$0.25

12718. Bottles, Balsam. With triangular glass balsam dropper touching neck, of bottle at three points only, thus preventing gumming; with glass cap ground on. Capacity, 30 cc. Each \$0.40

12720. Bottles, Balsam. Wide mouth, with loose glass rod, and glass cap.
Capacity, cc. 30 60
Each .25 .30

12722. Bottles, Cedar Oil. With cork stopper and rosewood dropper. Capacity, 30 cc. Each \$0.15

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



12724. Bottles, Cobalt or Acid. With solid glass stopper and glass cap ground on.

Capacity, cc.	10	25	50	100
Each	.30	.35	.40	.60

12726. Bottles, Dropping. With pipette stopper having rubber cap to control the amount of fluid ejected. Capacity, 30 cc. **Each \$0.25**

12728. Bottles, Dropping. With pipette stopper having glass bulb with perforation by which the amount of fluid ejected can be controlled. Capacity, 15 cc. **Each \$0.25**

12730. Bottles Dropping. With Barnes' pipette stopper. A very convenient and inexpensive bottle. Capacity, 30 cc. **Per ten \$0.75**

12732. Bottles, Dropping. With finger pipette.

Capacity, cc.	15	30	50
Each	.15	.18	.20

12734 Bottles, Dropping. Same as No. 12732 but with rubber bulb.

Capacity, cc.	15	30	50
Each	.18	.20	.25

12736. Bottles, Dropping. Same style as No. 12732 but made of amber glass.

Capacity, cc.	30	50
Each	.18	.20

12738. Bottles, Dropping. Same as No. 12736 but with rubber bulb.

Capacity, cc.	30	50
Each	.22	.25



12740. Bottles, Dropping. TK patent, with stopper arranged to deliver contents drop by drop or hermetically seal the bottle.

Capacity, cc.	15	30	50	75	100
Each	.15	.18	.20	.25	.30

12742. Bottles, Dropping. Same as No. 12740, but with flat stopper protecting the lip of bottle from dust.

Capacity, cc.	30	50	100	200
Each	.25	.30	.35	.40

12744. Bottles, Dropping. With ground pipette stopper and glass cap ground on.

Capacity, cc.	30	60
Each	.45	.50

12746. Bottles, Dropping. Salleron's. Each \$0.15

12748. Bottles, Dropping. Schuster's. Capacity, 30 cc., without stopper. Each \$0.15

12750. Bottles, Dropping. Schuster's. With ground glass stopper. Each \$0.20

12752. Bottles, Gutta Percha. For hydrofluoric acid.

Capacity, cc.	30	60	125	250	500
Each	.35	.40	.55	.70	1.20

Bottles, Homoeopathic. See VIALS, HOMOEOPATHIC.



12754



12756



12758



12762



12764



12760

12754. Bottles, Mixing. Accurately graduated; with ground glass stopper.

Capacity, cc.	100	250	500	1000	2000
Each	.75	1.00	1.50	2.25	3.00

12756. Bottles, Pipette, Wollyn's. For standard reagents; with graduated pipette stopper and rubber bulb. Without cap. Each \$1.25

12758. Bottles, Pipette, Wollyn's. With ground-on cap. Each \$1.50

12760. Bottles, Pipette. With capped pipette stopper; for volatile liquids. Liquids to the last drop may be drawn up into the pipette.

Capacity of pipette, cc.	10	25	50	100
Each	2.00	2.50	3.00	3.50

12762. Bottles, Pressure, Lintner's. For conversions and digestions. Used for the analysis of beer. Capacity, 125 cc.

Each \$2.75

12764. Bottles, Pressure. Heavy glass, with patent stopper.

Capacity, cc.	30	60	100	150	200
Each	.25	.28	.30	.32	.35

12766. Bottles, Pressure. Bottle only, without stopper.

Capacity, cc.	30	60	100	150	200
Each	.15	.18	.20	.22	.25



12768-12780



12782-12794

Bottles, Reagent: Many attempts have been made to devise a satisfactory label for reagent bottles and various styles have appeared on the market from time to time, but all have been lacking in some particular, viz., difficult to read, easily effaced by fumes of strong acids and ammonia, and in cemented forms, the labels dropping off after being used a short time. Our bottles are hand made with perfectly fitting stoppers and thin lips from which the contents may be easily dropped.

The labels are put upon the bottles by a new process devised by ourselves. The lettering is in black upon a white back ground, the entire label being surrounded by a black border. They can be read with ease, irrespective of the contents of the bottle and are permanent even when exposed to the fumes or direct application of the strongest acids and ammonia.

The following lists contain the names and symbols of the labels and sizes of bottles we are prepared to supply from stock. We will, however, at extra cost, supply bottles of standard sizes with any label not found in the lists.

12768. Bottles, Reagent. Narrow Mouth. Capacity, 30 cc. Per ten \$1.50

12770. Bottles, Reagent. Narrow Mouth. Capacity, 60 cc. Per ten \$1.75

1 Ammonium Sulphocyanate	11 Mohr-Ewald's Solution
	12 Nessler's Reagent
2 Blank	13 Phenolphthalein
3 Carbolic Acid	14 Platinic Chlorid
4 Cobaltous Nitrate	15 Potassium Iodid
5 Cochineal	16 Resorcin Solution
6 Ferric Chlorid	17 Silver Nitrate (Amber)
7 Gold Chlorid	18 Sodium Cobaltic Nitrite
8 Gunzburg's Reagent	19 Töpfer's Reagent
9 Litmus	20 Tropaeolin Solution
10 Methyl Orange	

12772. Bottles, Reagent. Narrow Mouth. Capacity, 125 cc. Per ten \$2.25

12774. Bottles, Reagent. Narrow Mouth. Capacity, 250 cc. Per ten \$3.00

12776. Bottles, Reagent. Narrow Mouth. Capacity, 500 cc. Per ten \$4.00

21 Acetic Acid	$\text{HC}_2\text{H}_3\text{O}_2$	63 Mercuric Potassium Iodid	
22 Alcohol	$\text{C}_2\text{H}_5\text{OH}$	64 Mercurous Nitrate	$\text{Hg}_2(\text{NO}_3)_2$
23 Ammonium Carbonate	$(\text{NH}_4)_2\text{CO}_3$	65 Methyl Alcohol	CH_3OH
24 Ammonium Chlorid	NH_4Cl	66 Methyl Orange	
25 Ammonium Hydroxid	NH_4OH	67 Nessler's Solution (r. s.)	
26 Ammonium Molybdate	$(\text{NH}_4)_2\text{MoO}_4$	68 Nitric Acid, Conc.	HNO_3
27 Ammonium Oxalate	$(\text{NH}_4)_2\text{C}_2\text{O}_4$	69 Nitric Acid, Dil.	HNO_3
28 Ammonium Polysulfid (amber)	$(\text{NH}_4)_2\text{S}_x$	70 Oil Cedar	
29 Ammonium Sulfid (amber)	$(\text{NH}_4)_2\text{S}$	71 Oil Cloves	
30 Ammonium Sulphocyanate	$(\text{NH}_4)\text{CNS}$	72 Oil Origanium	
31 Ammonium Sulphydrate	$(\text{NH}_4)\text{HS}$	73 Oxalic Acid	$\text{H}_2\text{C}_2\text{O}_4$
32 Barium Carbonate	BaCO_3	74 Phenolphthalein	
33 Barium Chlorid	BaCl_2	75 Picric Acid	$\text{C}_6\text{H}_2\text{OH}(\text{NO}_2)_3$
34 Barium Chlorid N.	BaCl_2	76 Platinic Chlorid	PtCl_4
35 Barium Hydroxid	$\text{Ba}(\text{OH})_2$	77 Potassium Carbonate	K_2CO_3
36 Barium Nitrate	$\text{Ba}(\text{NO}_3)_2$	78 Potassium Chromate	K_2CrO_4
37 Blank		79 Potassium Dichromate	$\text{K}_2\text{Cr}_2\text{O}_7$
38 Bromine Water	$\text{Br} + \text{H}_2\text{O}$	80 Potassium Ferricyanid	$\text{K}_3\text{Fe}(\text{CN})_6$
39 Calcium Chlorid	CaCl_2	81 Potassium Ferrocyanid	$\text{K}_4\text{Fe}(\text{CN})_6$
40 Calcium Hydroxid	$\text{Ca}(\text{OH})_2$	82 Potassium Hydroxid	(r. s.) KOH
41 Calcium Sulfate	CaSO_4	83 Potassium Hydroxid $\frac{\text{N}}{10}$	KOH
42 Carbon Disulfid	CS_2	84 Potassium Iodid	KI
43 Chloroform	CHCl_3	85 Potassium Permanganate	$\frac{\text{N}}{10} \text{KMnO}_4$
44 Cochineal		86 Potassium Sulfate	K_2SO_4
45 Corallin		87 Potassium Sulphocyanate	KCNS
46 Cupric Sulfate	CuSO_4	88 Silver Nitrate (amber)	AgNO_3
47 Distilled Water	H_2O	89 Silver Nitrate $\frac{\text{N}}{10}$	AgNO_3
48 Ether Sulfuric	$(\text{C}_2\text{H}_5)_2\text{SO}$	90 Silver Sulfate	Ag_2SO_4
49 Fehling's Solution (r. s.)		91 Sodium Acetate	$\text{NaC}_2\text{H}_3\text{O}_2$
50 Ferric Chlorid	Fe_2Cl_6	92 Sodium Carbonate	Na_2CO_3
51 Ferrous Sulfate	FeSO_4	93 Sodium Cobaltic Nitrite	
52 Hydrochloric Acid	HCl	94 Sodium Hydroxid	(r. s.) NaOH
53 Hydrochloric Acid $\frac{\text{N}}{10}$	HCl	95 Sodium Hydroxid $\frac{\text{N}}{10}$	NaOH
54 Hydrogen Peroxide	H_2O_2	96 Sodium Hyposulfite	$\text{Na}_2\text{S}_2\text{O}_3$
55 Hydrogen Sulfid (amber)	H_2S	97 Sodium Phosphate	Na_2HPO_4
56 Indigo Solution		98 Sulfuric Acid, Conc.	H_2SO_4
57 Iodin Solution	$\text{I} + \text{KI}$	99 Sulfuric Acid, Dil.	H_2SO_4
58 Lead Acetate	$\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$	100 Sulfuric Acid $\frac{\text{N}}{10}$	H_2SO_4
59 Litmus		101 Sulfuric Acid $\frac{\text{N}}{1}$	H_2SO_4
60 Magnesia Mixture		102 Stannous Chlorid	SnCl_2
61 Magnesium Sulfate	MgSO_4	103 Toluol	
62 Mercuric Chlorid	HgCl_2	104 Tumeric	
		105 Xylol	

12778. Bottles, Reagent. Narrow Mouth. Capacity, 1000 cc. Per ten \$5.00

12780. Bottles, Reagent. Narrow Mouth. Capacity, 2000 cc. Per ten \$6.00			
106 Alcohol	C_2H_5OH	113 Hydrochloric Acid, Dil.	H Cl
107 Benzole		114 Nitric Acid, Conc.	HNO_3
108 Blank		115 Nitric Acid, Dil.	HNO_3
109 Chloroform	$CHCl_3$	116 Oil Turpentine	
110 Distilled Water	H_2O	117 Sulfuric Acid, Conc.	H_2SO_4
111 Ether	$(C_2H_5)_2O$	118 Sulfuric Acid, Dil.	H_2SO_4
112 Hydrochloric Acid, Conc.	H Cl	119 Xylol	
12782. Bottles, Reagent. Wide Mouth. Capacity, 30 cc. Per ten \$1.75			
12784. Bottles, Reagent. Wide Mouth. Capacity, 60 cc. Per ten \$2.00			
120 Ammonium Phosphate	$(NH_4)_2HPO_4$	132 Potassium Bisulfate	$KHSO_4$
121 Am. Sod. Phosphate	$Na NH_4 HPO_4$	133 Potassium Ferricyanid	$K_3Fe(CN)_6$
122 Blank		134 Potassium Nitrate	KNO_3
123 Borax	$Na_2 B_4 O_7$	135 Sodium Acetate	$NaC_2H_3O_2$
124 Cobalt Chlorid	$Co Cl_2$	136 Sodium Bitartrate	$NaHC_4H_4O_6$
125 Copper	Cu	137 Sodium Carbonate	Na_2CO_3
126 Ferrous Sulfate	$Fe SO_4$	138 Sodium Nitrate	$NaNO_3$
127 Ferrous Sulfid	$Fe S$	139 Starch	
128 Lead, Gran.	Pb	140 Test Paper	
129 Potassium Carbonate	$K_2 CO_3$	141 Tin	Sn
130 Potassium Chlorate	$K Cl O_3$	142 Zinc	Zn
131 Potassium Cyanid	$K C N$		
12786. Bottles, Reagent. Wide Mouth. Capacity, 125 cc. Per ten \$2.50			
12788. Bottles, Reagent. Wide Mouth. Capacity, 250 cc. Per ten \$3.25			
12790. Bottles, Reagent. Wide Mouth. Capacity, 500 cc. Per ten \$4.50			
143 Acid Carbolic	C_6H_5OH	168 Potassium and Sodium Carbonate	
144 Acid Oxalic	$H_2C_2O_4$	169 Potassium Alum	$Al_2K_2(SO_4)_4$
145 Acid Picric	$C_6H_2OH(NO_2)_3$	170 Potassium Bichromate	$K_2 Cr_2 O_7$
146 Ammonium Alum	$Al_2(NH_4)_2(SO_4)_4$	171 Potassium Bisulfate	$K H SO_4$
147 Ammonium Carbonate	$(NH_4)_2CO_3$	172 Potassium Carbonate	$K_2 CO_3$
148 Ammonium Chlorid	$NH_4 Cl$	173 Potassium Chromate	$K_2 Cr O_4$
149 Ammonium Molybdate	$(NH_4)_2MoO_4$	174 Potassium Cyanid	$K CN$
150 Ammonium Oxalate	$(NH_4)_2C_2O_4$	175 Potassium Ferricyanid	$K_3 Fe (CN)_6$
151 Ammonium Phosphate	$(NH_4)_2HPO_4$	176 Potassium Ferrocyanid	$K_4 Fe(CN)_6$
152 Ammonium Sulfate	$(NH_4)_2SO_4$	177 Potassium Iodid	$K I$
153 Barium Chlorid	$Ba Cl_2$	178 Potassium Nitrate	$K N O_3$
154 Barium Nitrate	$Ba (NO_3)_2$	179 Potassium Nitrite	$K N O_2$
155 Black Flux		180 Potassium Permanganate	$KMnO_4$
156 Blank		181 Potassium Sulphocyanate	$K CN S$
157 Borax	$Na_2B_4O_7$	182 Sodium Acetate	$NaC_2H_3O_2$



12796



12798

158 Calcium Chlorid	Ca Cl ₂	183 Sodium Carbonate	Na ₂ CO ₃
159 Copper, Gran.	Cu	184 Sodium Hyposulfite	Na ₂ S ₂ O ₄
160 Copper Foil	Cu	185 Sodium Nitrite	Na NO ₂
161 Copper Sulfate	Cu SO ₄	186 Sodium Phosphate	Na ₂ H P O ₄
162 Ferric Chlorid	Fe ₂ Cl ₃	187 Sodium Sulfid	Na ₂ S
163 Ferrous Sulfate	Fe SO ₄	188 Stannous Chlorid	Sn Cl ₂
164 Magnesium Sulfate	Mg SO ₄	189 Test Paper	
165 Mercuric Chlorid	Hg Cl ₂	190 Tin, Gran.	Sn
166 Phenyl-Hydrazin Hydrochlorid		191 White Flux	
167 Phosphorous, Sticks	P	192 Zinc, Gran.	Zn
12792. Bottles, Reagent. Wide Mouth. Capacity, 1000 cc. Per ten \$5.50			
12794. Bottles, Reagent. Wide Mouth. Capacity 2000 cc. Per ten \$6.50			
193 Blank		202 Potassium Cyanid	K C N
194 Borax	Na ₂ B ₄ O ₇	203 Potassium Nitrate	K N O ₃
195 Boric Acid	H ₃ BO ₃	204 Sodium Ammonium Phosphate	
196 Copper, Gran.	Cu	205 Sodium Carbonate	Na ₂ CO ₃
197 Copper, sheet	Cu	206 Sodium Chlorid	Na Cl
198 Phosphorous, Sticks	P	207 Sodium Nitrate	Na NO ₃
199 Potassium Bisulfate	K H S O ₄	208 Sulfur, Flowers	S
200 Potassium Carbonate	K ₂ C O ₃	209 Tin, Gran.	Sn
201 Potassium Chlorate	K Cl O ₃	210 Zinc, Gran.	Zn

We will supply our new reagent bottles, singly, either narrow mouth or wide mouth, with special names not included in the list above, at the following prices per bottle: 30 cc., 65c.; 60 cc., 70 c.; 125 cc., 75 c.; 250 cc., 85 c.; 500 cc., \$1.00; 1000 cc., \$1.25. If ordered in quantities, price on application.

12796. Bottle Caps. Of glass; to fit over the stoppers of Reagent Bottles.							
Capacity of Bottles, cc.	30	60	125	250	500	1000	2000
Per ten	.75	.75	.75	.75	.75	.75	.75

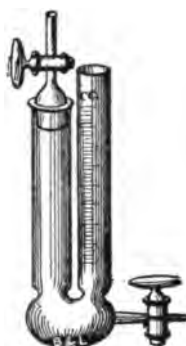
12798. Bottle, Reagent Stock. A removable glass funnel is ground into the neck and serves as a pour-out. Fitted with glass cap ground on. Capacity, 500 cc. **Each \$0.60**



12800



12802



12804



12806



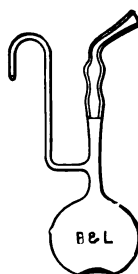
12808



12810



12812



12814

12800. Bottles, Specific Gravity. With thermometer, graduated to $1/5^\circ$, ground into neck.

Capacity, cc.	25	50	100
Each	2.50	2.60	2.75

12802. Bottles, Specific Gravity. With thermometer ground in; accurately adjusted; very light.

Capacity, cc.	25	50	100
Each	1.50	1.75	2.00

12804. Bottles, Specific Gravity, American Form. For liquids or solids. Each \$4.00

12806. Bottles, Specific Gravity, Gay-Lussac's. With perforated stopper.

Capacity, cc.	1	2	5	10	25	50	100
Each	.20	.20	.20	.20	.25	.35	.50

12808. Bottles, Specific Gravity, Gay-Lussac's. Most accurately adjusted.

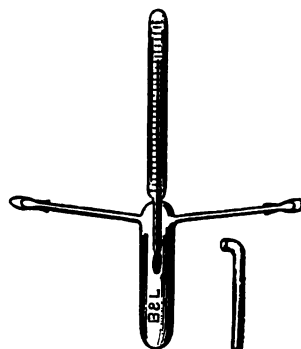
Capacity, cc.	1	2	5	10	25	50	100
Each	.55	.55	.55	.55	.60	.85	1.10

12810. Bottles, Specific Gravity, Gay-Lussac's. Same as No 12808, in tin case with tare weight.

Capacity, cc.	10	25	50	100
Each	1.50	1.60	2.00	2.40



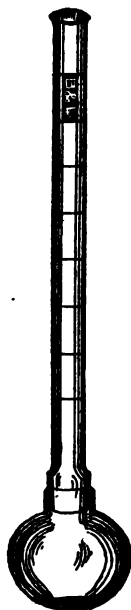
12822



12824



12826



12820



12816



12818

12812. Bottle, Specific Gravity, Hogarth's. For determining the specific gravity of iron ores in iron analysis. (Blair's Analysis, 3d edition, page 265.) Each \$2.00

12814. Bottle, Specific Gravity, Kohl's. With ground-in thermometer and capillary tube divided in millimeters. Each \$3.00

12816. Bottles, Specific Gravity, Regnault's. For liquids.

Capacity, cc.	25	50	100
Each	.45	.50	.65

Each	.45	.50
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12818. Bottles, Specific Gravity, Regnault's. For solids.

Capacity, cc.	25	50
Each	.45	.50

Each	.45	.50
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12820. Bottle, Specific Gravity, Schumann's. For cement. Each \$2.25

12822. Bottles, Specific Gravity, Sprengel's. With caps ground on. Each \$0.75

12824. Bottles, Specific Gravity, Sprengel's. With normal thermometer and ground-in suction tube. Each \$3.50

12826. Bottles, Specific Gravity, Squibb's.

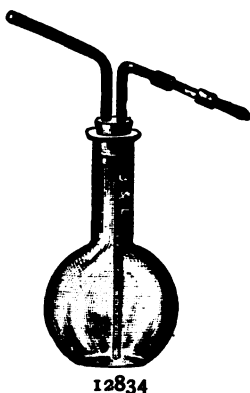
Capacity, cc.	25	50	100
Each	1.00	1.25	1.50

Each	1.00	1.25	1.50
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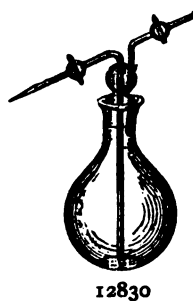
Bottles, Specimen. See JARS AND VIALS.



12828



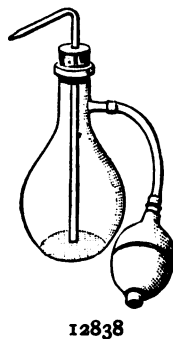
12834



12830



12832



12838

12828. Bottles, Washing. For ether. With glass tubes and glass stopper ground in.

Capacity, cc.	125	250	500	1000
Each	.75	1.00	1.25	1.50

12830. Bottles, Washing. For volatile liquids. With glass tubes, stop cocks, and glass stopper ground in.

Capacity, cc.	125	250	500	1000
Each	2.00	2.50	2.75	3.00

12832. Bottles, Washing. With glass tubes and rubber stopper.

Capacity, cc.	125	250	375	500	750	1000	2000
Each	.30	.40	.45	.50	.60	.75	1.00

12834. Bottles, Washing, Faraday's. With rubber stopper and flexible delivery tube.

Capacity, cc.	125	250	375	500	750	1000	2000
Each	.30	.40	.45	.50	.60	.75	1.00

12836. Bottles, Washing. With rattan covered neck.

Capacity, cc.	150	250	500	1000
Each	.65	.75	1.00	1.10

12838. Bottles, Washing. With valved rubber bulb. For washing with hot water, etc.; give continuous flow.

Capacity, cc.	125	250	500	1000
Each	.80	.90	1.10	1.50

12840. Bottles, Washing, Fitted with Handles. Any of the above washing bottles will be supplied with handles, on order. (See illustration, page 98.)

Each \$1.00



12841



12842



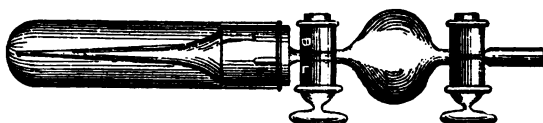
12844



12848



12840



12856

12841. **Bottles, Weighing.** High form, with ground glass stopper. Very light. Flat bottom.

Height, mm.	60	80	100	120
Diameter, mm.	10	15	23	32
Each	.18	.20	.25	.30

12842. **Bottles, Weighing.** Same as No. 12840 but with round bottom.

Height, mm.	60	80	100	120
Diameter, mm.	10	15	23	32
Each	.18	.20	.25	.30

12844. **Bottles, Weighing.** Low form, with ground glass stopper. Flat bottom.

Height, mm.	40	50	60	70	80
Diameter, mm.	25	30	30	35	45
Each	.25	.30	.35	.40	.45

12846. **Bottles, Weighing.** Low form, with ground glass stopper. Round bottom.

Height, mm.	40	50	60	70	80
Diameter, mm.	25	30	30	35	45
Each	.25	.30	.35	.40	.45

12848. **Bottles, Weighing.** Conical, with flat bottom and ground glass stopper.

Capacity, cc.	15	30	60
Each	.35	.40	.50

12850. **Bottles, Weighing.** Two tubes, one sliding into the other. Length 60 mm. (See illustration, page 99.) Per set \$0.20

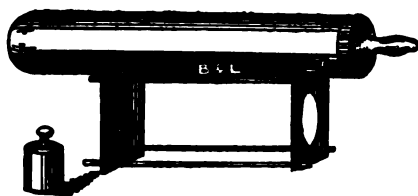
12852. **Bottle Weighing Support,** for bottle No. 12850; to be used either up-right or horizontal. (See illustration, page 99.) Each \$1.50

12854. **Bottles, Weighing, Grethen's.** With ground-in pipette for weighing corrosive liquids. Capacity 2 cc. (See page 99.) Each \$2.00

12856. **Bottles, Weighing, Lunge's.** For weighing corrosive liquids. Each \$3.50



12864



12852



12866



12860



12850



12854



12858

12858. Bottles, Woulff. Heavy glass; with two necks.

Capacity, cc.	125	250	500	1000	2000	4000	8000
Each	.40	.45	.50	.85	1.20	2.10	3.00

12860. Bottles, Woulff. Heavy glass; with three necks.

Capacity, cc.	125	250	500	1000	2000	4000	8000
Each	.45	.50	.60	.95	1.35	2.30	3.50

12862. Bottles, Woulff. Glass; with two necks, and tubulature near bottom.

Capacity, cc.	500	1000	2000	4000
Each	.80	1.00	1.50	2.50

12864. Bottles, Woulff. Glass; with three necks, and tubulature near bottom.

Capacity, cc.	500	1000	2000	4000
Each	.90	1.10	1.65	2.75

12866. Bottles, Woulff. Glass; with three necks, and two delivery tubes and glass stopper ground in.

Capacity, cc.	125	250	500	1000
Each	1.00	1.25	1.60	2.00

12868. Bottles, Woulff. Of stoneware; any size to order.

12870. Boxes, Paste Board. So-called pill boxes. Made of heavy stock, covered with white glazed paper. (See illustration, page 100.)

Diameter, mm.	30	35	40	50	60	70
Depth, mm.	10	12	14	16	22	28
Per hundred	1.40	1.60	1.75	1.85	2.00	2.10

12872. Boxes, Paste Board. Rectangular; covered with white glazed paper.

Length, mm.	50	60	65
Width, mm.	30	35	40
Depth, mm.	18	20	22
Per hundred	.45	.50	.55



12874. Boxes, Glass. With glass covers.

Capacity, cc.	15	30	60	125	250	500
Per ten	.50	.65	.90	1.35	2.25	3.35

12876. Boxes, Glass. With nickel plated screw cap; without shoulder.

Capacity, cc.	10	15	30	60	90	125	250	500
Per ten	.35	.40	.55	.70	.85	1.00	1.65	2.45

12878. Box, Opal Glass. Oblong. Capacity, 25 cc. **Per ten \$1.05**

12879a. Boxes, Slide. Of light wood with tight fitting cover; index on the inside; label on the outside with space for titles. Label is visible when box is in position to keep slides horizontal. For slides 3 x 1 inch.

Capacity	12	25 slides
Per ten	.55	.65

12879b. Boxes, Slide. Made of white wood with a capacity of twenty-five slides. This is an improved form of No. 12879a, having a cover which fits over the top so that, when removed, each slide can be withdrawn easily. For slides 3 x 1 inch. **Per ten \$1.00**

12880. Boxes, Tin. Seamless.

Capacity, grams	5	10	15	30	60	125	250
Per hundred	.50	.70	.80	1.00	1.60	2.50	4.00

12882. Boxes, Turned Wood.

Capacity, grams	5	10	15	30	60	125	250
Per hundred	.30	.36	.45	.55	.95	1.70	3.35

12884. Bristol Board. Clear white; good erasing surface and weight. Size 330 x 400 mm. **Per ten sheets \$0.25**



12886. Brushes, Acid. Made of glass cemented in glass handle. Diameter, 6 mm. **Each \$0.25**

12888. Brushes, Bristle. For assay buttons. **Each \$0.50**

12890. Brushes, Bristle. With wooden handle. For cleaning small cylinders, etc. **Each \$0.15**

12892. Brushes, Bristle. With wooden handle. For cleaning large cylinders.

Number of rows	3	4
Each	.25	.30

12894. Brushes, Bristle. With wooden handle. For cleaning small jars. **Each \$0.20**

12896. Brushes, Bristle. With wooden handle. For cleaning large jars.

Number of rows	3	4	6
Each	.25	.30	.35

12898. Brushes, Bristle. Flat, for paste, etc. (See illustration, page 102.)

Width, mm.	25	38	50	62
Each	.05	.08	.10	.15

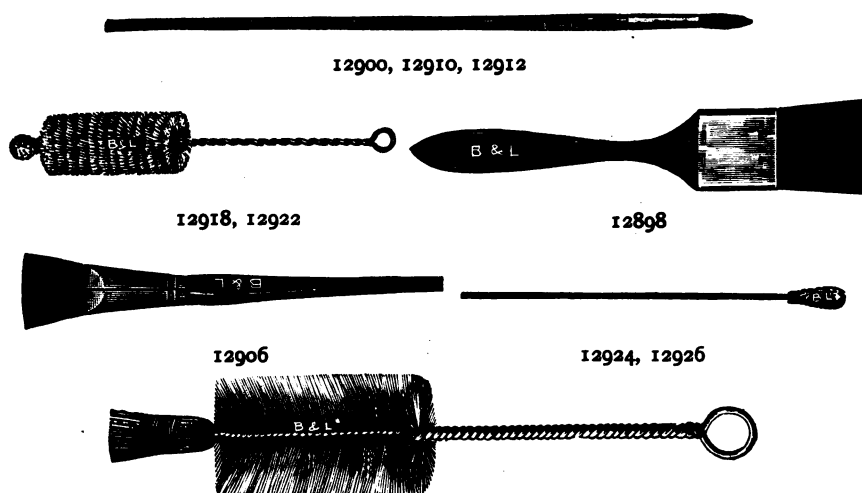
12900. Brushes, Bristle. Round, for marking, etc.

Length of bristles, mm.	15	17	19	21
Per ten	.35	.38	.40	.45

12902. Brushes, Camel's Hair. Miniature size; bound in quill handle.

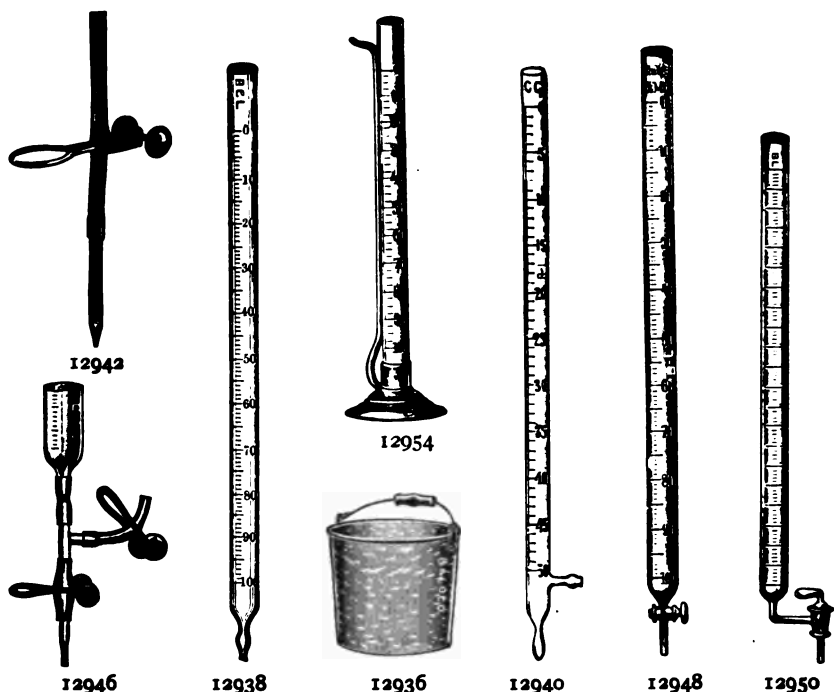
Numbers	1	2	3	4	5	6	7	8
Length of hair, mm.	8	10	12	14	16	18	20	22
Per ten	.40	.40	.55	.55	.80	.80	1.00	1.00

12904. Brushes, Camel's Hair. Very fine pointed; bound with silk in swan quill handle.



	12916, 12920							
Length of hair, mm.	18	22	25					
Per ten	1.15	1.15	1.15					
12906. Brushes, Camel's Hair.	Flat, for dusting scale pans.							
Width, mm.	12	25	37	50				
Each	.15	.25	.45	.60				
12908. Brushes, Camel's Hair.	Round, for dusting scale pans.							
Diameter, mm.	12	15	20					
Each	.35	.85	1.75					
12910. Brushes, Red Sable.	With wooden handle and metal ferrule.							
Numbers	0	1	2	3	4	5	6	7
Per ten	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.00
12912. Brushes, Russian Sable.	With wooden handle and metal ferrule.							
Numbers	1	2	3	4	5	6		
Per ten	.60	.65	.70	.75	.80	.90		
Numbers	7	8	9	10	11	12		
Per ten	1.00	1.10	1.20	1.30	1.40	1.50		
12914. Brushes, Scrubbing.								
Length, mm.	115		150					
Width, mm.	40		75					
Each	.10		.15					

12916. Brush, Test Tube. On brass wire; bristle, with bristle end.	Per ten	\$0.75
12918. Brush, Test Tube. On brass wire; bristle, with sponge end.	Per ten	\$0.85
12920. Brush, Test Tube. On tinned iron wire; bristle, with bristle end.	Per ten	\$0.55
12921. Brush, Test Tube. On tinned iron wire; bristle.	Per ten	\$0.25
12922. Brush, Test Tube. On tinned iron wire; bristle, with sponge end.	Per ten	\$0.65
12924. Brush, Test Tube. Sponge, with rattan handle.	Per ten	\$0.60
12926. Brush, Test Tube. Sponge, with whalebone handle.	Per ten	\$1.25



12928. **Brush, Tube.** For cleaning narrow tubes. Bristle, on tinned iron wire.
 Per ten \$0.10
12930. **Brush, Tube.** For cleaning burettes. Bristle, on tinned iron wire
 1 meter long.
 Per ten \$0.75
12932. **Brush, Tube.** On brass wire 1 meter long.
 Per ten \$1.20
12934. **Brushes, Tube.** For cleaning cylinders, large tubes, bottles, etc.
 Bristle, on brass wire.

Length, mm.	250	300	375	500
Each	.10	.13	.16	.20

12936. **Buckets, Agateware.** Agate nickel steel, seamless.

Capacity (approx.) liters	8	12
Height, mm.	175	225
Diameter (top) mm.	240	290
Each	1.25	1.75

Bulb Tubes. See TUBES, IGNITION.

Bulb Tubes, Meyer's. See SULPHUR APPARATUS.

Bulbs. See RUBBER BULBS.

Burettes for General Laboratory Work. The following are intended for use in routine, laboratory work. They are adjusted by accurate measurement with water at 15° c. and are graduated with *semi-circular markings* for quick reading.

We have adopted the semi-circular form of graduation as our standard for burettes for routine laboratory work, and the circular form for instruments of precision. Both render the reading of markings more accurate than is possible in the short line graduations in common use. Being made at our own works and under our own supervision, we are assured of careful testing and can recommend these instruments as of superior quality.

Burettes, Gas. See GAS BURETTES.

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.

12938. Burettes, Mohr's. For pinch cock. (See illustration, page 103.)

Capacity, cc.	5	10	10	25	25	50
Graduated, cc.	1/10	1/10	1/20	1/10	1/20	1/5
Each	.35	.40	.60	.65	.75	1.00
Capacity, cc.	50	75	75	100	100	100
Graduated, cc.	1/10	1/5	1/10	1/20	1/5	1/10
Each	1.25	1.25	1.50	1.25	1.50	1.75

12940. Burettes, Mohr's. For pinch cock; with side tube for re-filling.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	.75	1.25	1.60	1.75

12942. Burette Attachment. For use on burettes not having stop cocks. Consists of pinch cock, glass tip, and rubber tubing to connect with burette. (See illustration, page 103.)

Size	Small	Medium	Large
Each	.25	.25	.25

12944. Burette Tips. Of glass. **Per ten \$0.25**

12946. Burette Attachment. To connect burette with reservoir for filling. Complete as illustrated. (See page 103.) **Each \$0.50**

12948. Burettes, Mohr's. With Geissler's stop cock; straight. (See page 103.)

Capacity, cc.	10	10	25	25	50	50
Graduated, cc.	1/10	1/20	1/10	1/20	1/5	1/10
Each	1.00	1.15	1.25	1.50	1.75	1.85
Capacity, cc.	75	75	100	100	100	
Graduated, cc.	1/5	1/10	1/2	1/5	1/10	
Each	2.00	2.25	2.00	2.25	2.50	

12950. Burettes, Mohr's. With Geissler's stop cock; bent. (See page 103.)

Capacity, cc.	10	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/10	1/5
Each	1.00	1.25	1.85	2.25	2.25

12952. Burettes. With three-way stop cock. (See illustration, page 106.)

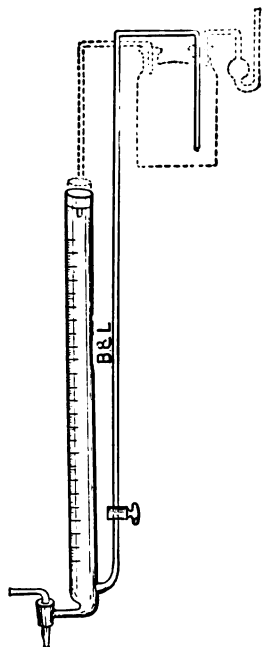
Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	2.25	2.75	3.25	3.50

12954. Burettes, Bink's. On wooden base. (See illustration, page 103.)

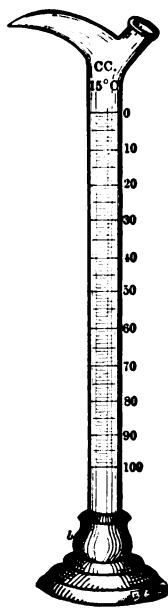
Capacity, cc.	10	25	50	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	.75	1.00	1.25	2.00

12956. Burettes, Gay-Lussac's. On wooden base. (See page 105.)

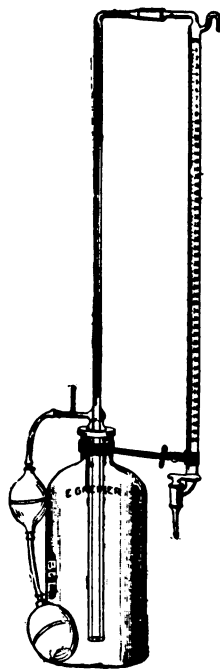
Capacity, cc.	10	25	50	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	.80	1.00	1.10	2.00



12958



12956



12968

12958. Burettes, Gawalowsky's. With side tube and stop cock to connect with reservoir for refilling.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	2.50	3.25	3.75	4.00

12960. Burettes, Geissler's. With ground glass rod to serve as stop cock.

Capacity, cc.	25	50	100
Graduated, cc.	1/10	1/10	1/5
Each	1.00	1.50	2.00

12961. Burettes, Schellbach's. With dark enameled stripe on white background. For pinch-cock. (See illustration, page 106.)

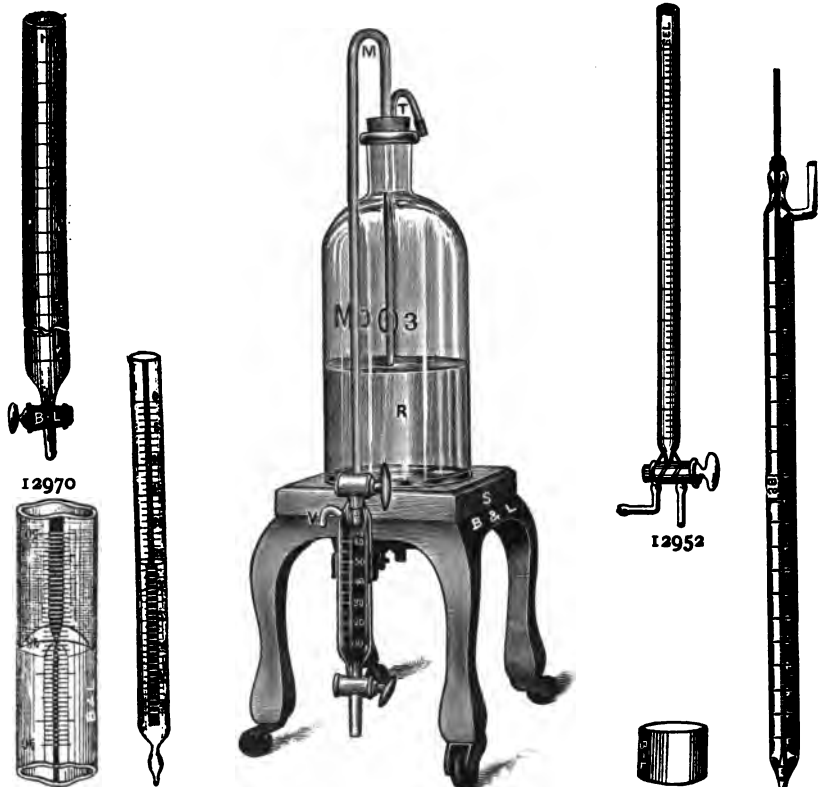
Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	1.20	1.50	2.00	1.75

12962. Burettes, Schellbach's. With Geissler's stop cock.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	2.00	2.50	3.00	3.00

12964. Burettes, Schellbach's. Having two sides white enameled, the remaining surface being transparent. For pinch cock.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	1.20	1.50	2.00	1.75



12961 12974 12972 12960
 12965. Burettes, Shellbach's. Similar to No. 12964. With Geissler's stop cock.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	2.00	2.50	3.00	3.00

12966. Burettes, Schellbach's. With three-way stop cock.

Capacity, cc.	25	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/5
Each	2.25	3.00	3.75	3.75

12968. Burettes, Automatic Zero. The burette is filled by suction through the side tube at top of burette, or by pressure from rubber bulb attached to side tube near neck of reservoir, as illustrated. (See page 105.) When the burette is full any excess above the zero mark syphons back into the reservoir. Complete with reservoir and clamp. Burette graduated to 1/10 cc.

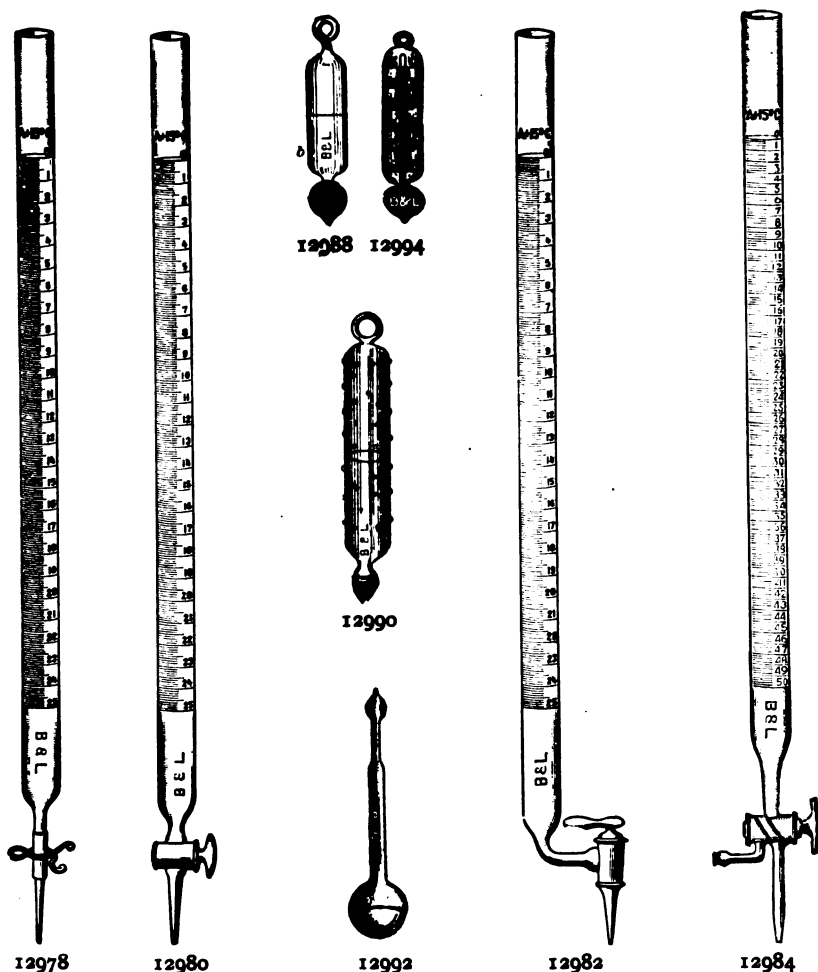
Capacity, cc.	25	50
Each	4.50	5.00

12970. Burettes. For dispensing liquids; with glass stop cock.

Capacity, cc.	100	250	500	1000	2000
Graduated, cc.	1	5	10	25	50
Each	1.75	2.50	3.00	3.75	5.00

12971. Burettes. For dispensing liquids; with glass stop cock, bent.

Capacity, cc.	100	250	500	1000	2000
Graduated, cc.	1	5	10	25	50
Each	1.75	2.50	3.00	3.75	5.00



12972. Burette caps for No. 12970. Each .05, .10, .15, .20, .25

12974. **Burettes.** After design of Dr. Edward S. Johnson. For quick measuring of reagents. Complete with 60 cc. burette, 4 liter bottle, stand, etc., as illustrated on page 106, including also rubber force pump and pinch-cock. Each \$10.00

12976. **Burettes** of 200 cc. capacity, graduated to 5 cc., one stop cock. For use with Dr. Johnson's Burette No. 12974. Each \$3.00

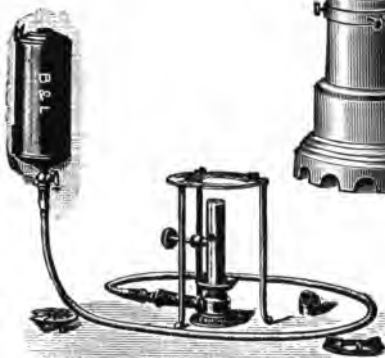
Burettes for Laboratory Work of Precision. These burettes have circular (all round) *markings* for very accurate reading, and are graduated by weight on delicate balance. They are standardized to meet the requirements of the German Imperial Commission. A certificate of accuracy is supplied with each instrument.

12978. **Burettes, Mohr's.** With pinch-cock, rubber tubing and glass tip,

Capacity, cc.	10	10	25	25	50
Graduated, cc.	1/10	1/20	1/10	1/20	1/5
Each	1.05	1.45	1.55	1.75	2.25



12996



13004



13002

	Capacity, cc.	50	75	75	100	100	100
	Graduated, cc.	1/10	1/5	1/10	1/2	1/5	1/10
	Each	2.75	2.75	3.25	2.75	3.25	3.75
12980.	Burettes, Mohr's. With Geissler's stop cock; straight. (See page 107.)						
	Capacity, cc.	10	10	25	25	50	50
	Graduated, cc.	1/10	1/20	1/10	1/20	1/5	1/10
	Each	2.00	2.30	2.50	3.00	3.50	3.70
	Capacity, cc.	75	75	100	100	100	
	Graduated, cc.	1/5	1/10	1/2	1/5	1/10	
	Each	4.00	4.50	4.00	4.50	5.00	
12982.	Burettes, Mohr's. With Geissler's stop cock; bent. (See page 107.)						
	Capacity, cc.	10	25	50	75	100	
	Graduated, cc.	1/10	1/10	1/10	1/10	1/5	
	Each	2.30	2.50	3.70	4.50	4.50	
12984.	Burettes. With three-way stop cock. (See page 107.)						
	Capacity, cc.	10	25	50	75	100	
	Graduated, cc.	1/10	1/10	1/10	1/10	1/5	
	Each	4.00	4.50	5.50	6.25	7.00	

We will also supply these burettes (on import orders only and at higher prices) tested by the German Imperial Commission whose indorsement of accuracy is stamped upon each instrument. Prices on application.

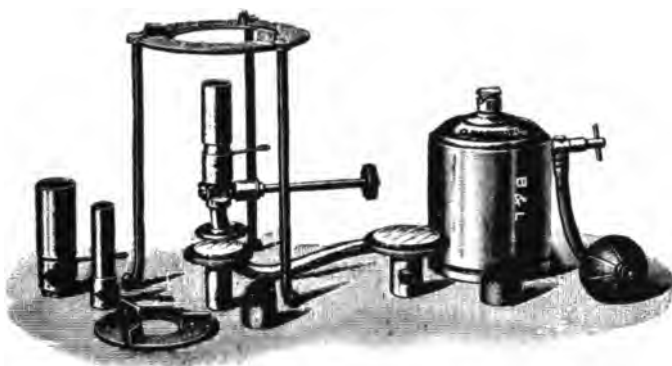
12986. **Burette Caps.** Of glass, for any burette. Per ten \$0.50

Burette Clamps. See CLAMPS.

Burette Floats. Materially increase the accuracy of reading burettes. In ordering, give inside diameter of burette.

12988. **Burette Floats, Erdmann's.** Plain form. Each \$0.25

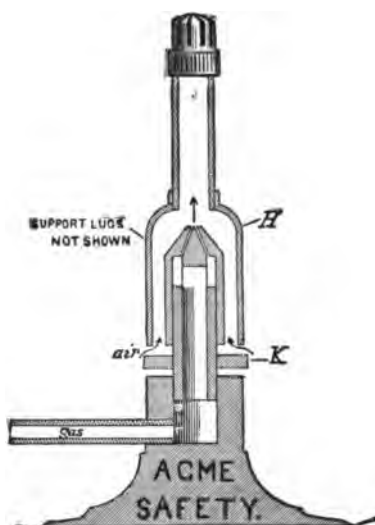
12990. **Burette Floats, Vollhard's.** With glass points to prevent adhering to walls of burette. (See illustration, page 107.) Each \$0.40



13008



13006



13010

12992. Burette Floats, Beutel's. (See page 107.) Each \$0.35

12994. Burette Floats, Schulze's. With thermometer. (See page 107.) Each \$0.75

Burette Stands or Holders. See SUPPORTS.

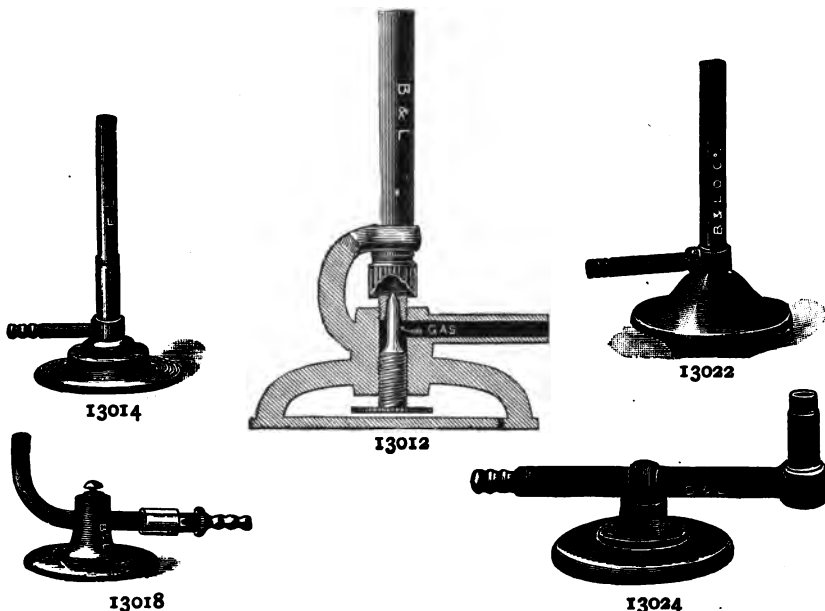
12996. Burners, Argand. Low form with lava tip and iron chimney. The flame is adjustable and can be turned down very low. Arranged for artificial gas. (See illustration, page 108.) Each \$1.00

12998. Burners, Argand. Arranged for natural gas. Each \$1.00

13000. Clay Chimneys for above. Each \$0.25

13002. Burners, Argand, Erlenmeyer's. Latest form, with improved air regulator. Supplied with star support and clay and iron chimneys. (See illustration, page 108.) Each \$4.00

13004. Burner, Barthel's Alcohol. This burner produces a smokeless, blue flame of great intensity. Requires no wick, cannot explode, and is easily regulated. Complete with reservoir and $1\frac{1}{2}$ meters of flex-



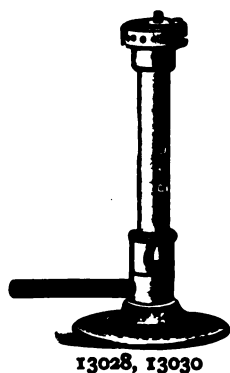
ible metallic tubing. The small size is equal to two, and the large size four, Bunsen burners. (See illustration, page 108.)

Sizes	Small	Large
Each, Net	7.50	9.00

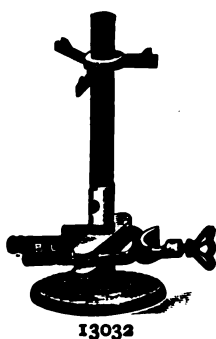
- 13006. Burner, Barthel's Gasoline.** Requires no wick and is absolutely safe. Produces a noiseless flame of high temperature. Will bring a liter of water at 15°C to boil in about six minutes. Capacity of reservoir sufficient for two hours at full flame. **Each, Net \$4.00**
- 13008. Burner, Barthel's Gasoline.** A non-explosive burner capable of variation from a very small flame to a powerful blast of 2000°C. A variety of flame in size and shape may be produced by means of interchangeable tubes. (See illustration, page 109.) **Each, Net \$6.75**

Burners, Blast. See BLAST LAMPS.

- 13010. Burner, Boyce's Acme.** For coal or gasoline gas. **Each \$1.50**
- 13012. Burner, Boyce's Adjustable.** For coal or gasoline gas, with separate regulators for gas and air supplies. **Each \$1.00**
- 13013. Burner, Bunsen's.** For acetylene gas. **Each \$1.35**
- 13014. Burner, Bunsen's.** With air regulator. **Each \$0.25**
- 13016. Burner, Bunsen's.** With tube 12 mm. diameter, giving flame twice the size of No. 13014. **Each \$0.40**
- 13018. Burner, Bunsen's.** Low form, with air regulator. **Each \$0.50**
- 13020. Burner, Bunsen's.** With mica chimney. **Each \$1.00**
- 13022. Burner, Bunsen's.** Improved form in which the air enters at the lower end of the tube instead of at the side and is thoroughly mixed with the gas, producing complete combustion. **Each \$0.35**
- 13024. Burner, Bunsen's.** Improved low form. Made on same principle as No. 13022. **Each \$0.75**



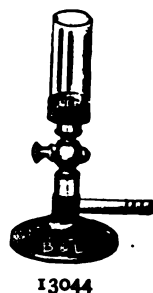
13028, 13030



13032



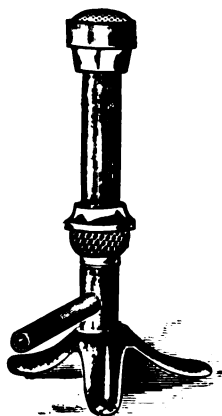
13040



13044



13034



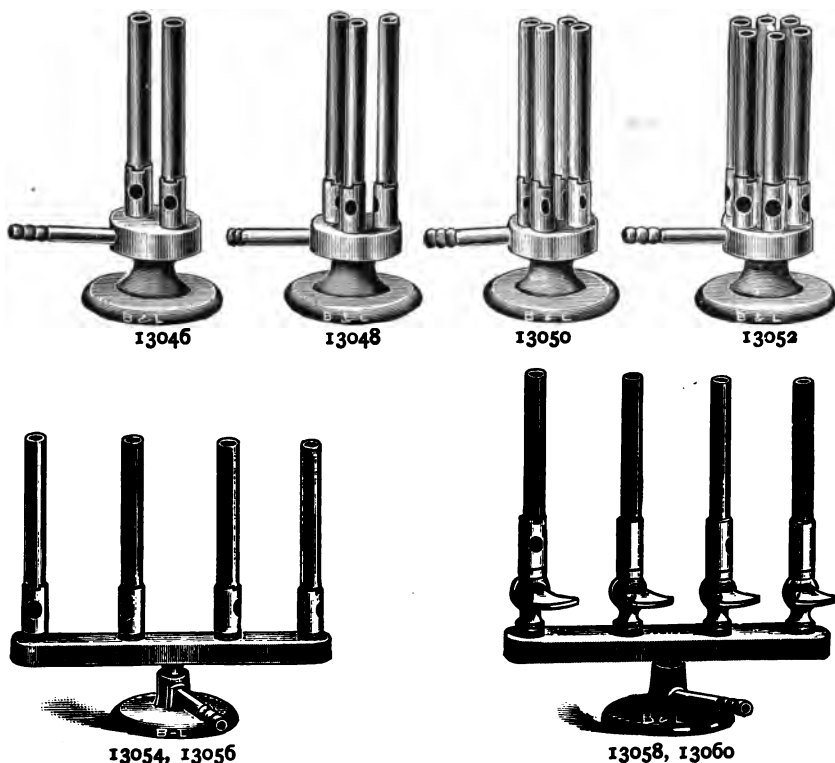
13038



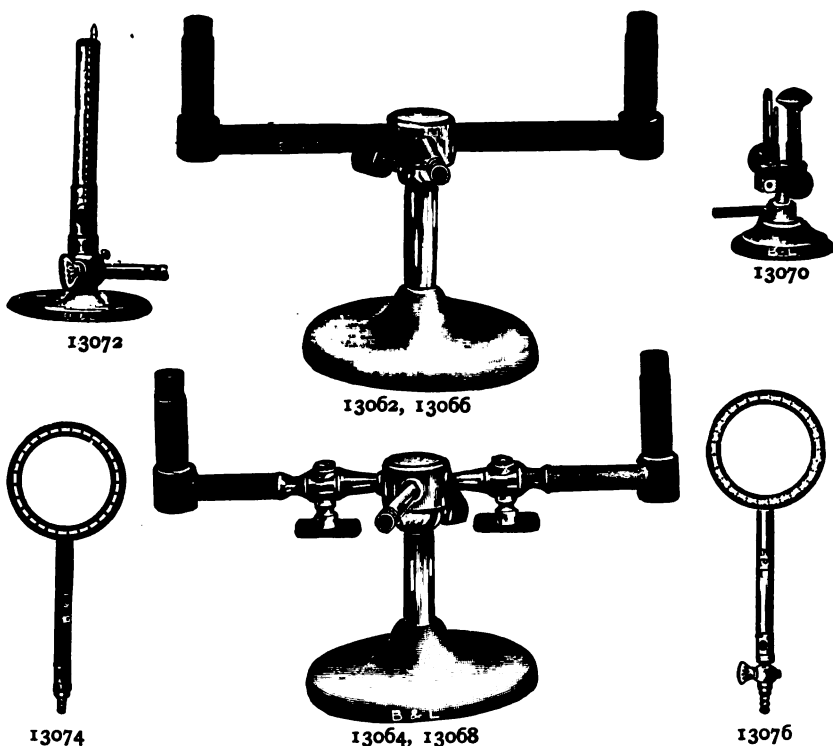
13036

13026. Burner, Bunsen's. Style No. 13024. With mica chimney. Each \$1.25
13028. Burner, Bunsen's. With crown top; so-called small locomotive burner. Each \$0.60
13030. Burner, Bunsen's. With crown top; so-called large locomotive burner. Height, 175 mm.; diameter of tube, 18 mm.; crown top, 38 mm. diameter. Each \$3.00
13032. Burner, Bunsen's. With fork to attach to stand, and support for chimney. Each \$1.65
13034. Burner, Bunsen's Adjustable. For burning gases of various qualities. A desirable burner for gasoline gas. Each \$1.25
13036. Burner, Bunsen's Combination. For gasoline gas. Each \$1.25
13038. Burner, Bunsen's, Fletcher's Safety. Of brass, with gauze top to prevent lighting back. The gauze is easily replaced if accidentally destroyed. Complete with base. Each \$2.15
13039. Burner, Bunsen's, Fletcher's Safety. Without base. Each \$1.20
13040. Burner, Bunsen's Micro. A very small flame can be obtained with this burner. Nickel plated; height, 60 mm. Without mica chimney. Each \$0.50
13042. Burner, Bunsen's Micro. With mica chimney. Each \$1.00
13044. Burner, Bunsen's Micro. With stop cock and glass chimney. Height, 165 mm. Each \$2.00

New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



- | | | | |
|--|---|------|--------|
| 13046. Burners, Bunsen's Multiple Tubed. | Two tubes. | Each | \$1.30 |
| 13048. Burners, Bunsen's Multiple Tubed. | Three tubes. | Each | \$1.75 |
| 13050. Burners, Bunsen's Multiple Tubed. | Four tubes. | Each | \$2.00 |
| 13052. Burners, Bunsen's Multiple Tubed. | Six tubes. | Each | \$3.00 |
| 13054. Burners, Bunsen's Multiple Tubed. | Three tubes in line. | Each | \$1.75 |
| 13056. Burners, Bunsen's Multiple Tubed. | Four tubes in line. | Each | \$2.00 |
| 13058. Burners, Bunsen's Multiple Tubed. | Three tubes in line, with stop cocks. | Each | \$3.75 |
| 13060. Burners, Bunsen's Multiple Tubed. | Four tubes in line, with stop cocks. | Each | \$4.50 |
| Burners, Bunsen's Multiple Tubed. For heating large surfaces. On adjustable support and with or without stop cocks. These burners will be supplied with mica chimneys at an additional cost. | | | |
| 13062. Burners, Bunsen's Multiple Tubed. | Two flames in line. | Each | \$2.50 |
| 13064. Burners, Bunsen's Multiple Tubed. | Two flames in line, with stop cocks. (See illustration, page 113.) | Each | \$5.00 |
| 13066. Burners, Bunsen's Multiple Tubed. | Four flames in square. (See illustration, page 113.) | Each | \$3.75 |
| 13068. Burners, Bunsen's Multiple Tubed. | Four flames in square, with stop-cocks. (See illustration, page 113.) | Each | \$7.00 |



13070. Burner, Bunsen's Patent Triplex. Consists of a large safety Bunsen, an illuminating burner, and a pilot flame controlled by an automatic valve. The pilot flame has separate valve and is useful for blow-piping. **Each \$3.00**

13072. Burner, Bunsen's, with pilot flame. **Each \$2.25**

13074. Burners, Bunsen's Ring Form. To be used on apparatus support for heating funnels, flasks, etc. With air regulator.

Diameter of ring, mm.	75	100	125	150
Each	1.25	1.50	1.75	2.00

13076. Burners, Bunsen's Ring Form. With stop cock and air regulator.

Diameter of ring, mm.	75	100	125	150
Each	2.00	2.25	2.50	2.75

13078. Burner, Chaddock's Non-corrodible. This burner will be appreciated by every chemist who has used metal burners in hoods. It is incorrodible, the gas exit being of glass and the rest of porcelain and white fire clay. It consists of three sections serving for various laboratory requirements and is supplied with flame spreader, asbestos disc, and asbestos rings. The small chimney is for platinum triangles. On account of not containing any metal parts it is to be highly recommended for poison analysis. **Each \$2.00**

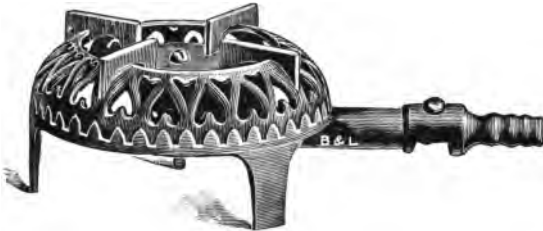
13080. Burner, Laboratory. This burner is simple in construction and practically indestructible. Burns either artificial or natural gas, and though low in price is useful for a variety of purposes. Height, 70 mm.; diameter, 125 mm. (See illustration, page 114.) **Each \$0.20**



13082



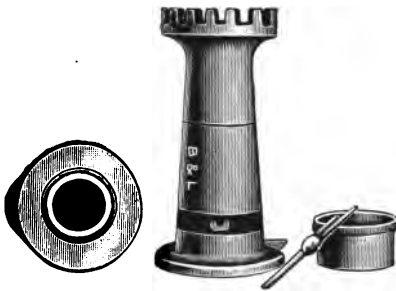
13084, 13086



13080



13090



13078



13088

13082. Burner, Concentric. This is a very satisfactory burner at a low price, making it desirable where a large number of burners are to be used. Height, 80 mm.; diameter, 150 mm. **Each \$0.50**

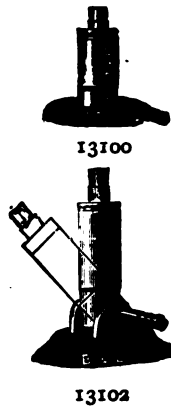
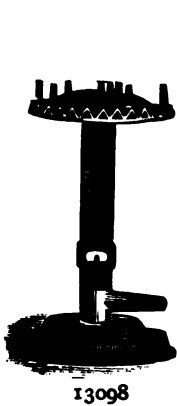
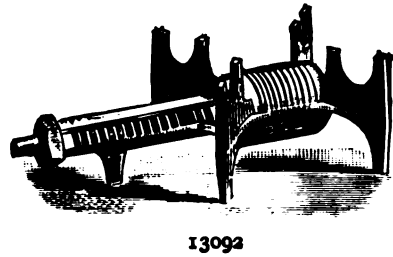
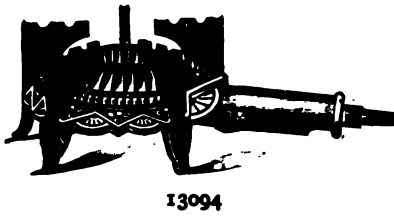
13084. Burners, Fletcher's Evaporating. For glass and porcelain vessels, and general laboratory work. Made of solid copper, with lap joints (without solder). This burner is a great improvement on the ordinary coil burner in use, owing to the fact that currents of cold air, which are so fatal to glass and porcelain dishes, cannot reach the vessel. It is the safest burner known for heating flasks, giving a flat flame of any power, which cannot touch the flask. The total height for the different diameters is about 38 mm.

Diameter, mm.	100	125	160	190	230	270	300
Each	1.80	2.10	2.70	3.60	4.20	4.80	6.00

13086. Burners, Fletcher's Evaporating. Same construction as No. 13084, but made of cast iron which for some purposes is more durable than copper.

Diameter, mm.	100	125	160
Each	1.20	1.50	2.40

13088. Burner, Fletcher's Laboratory. Complete with sand bath, 225 mm. diameter and 25 mm. deep. **Each \$6.10**



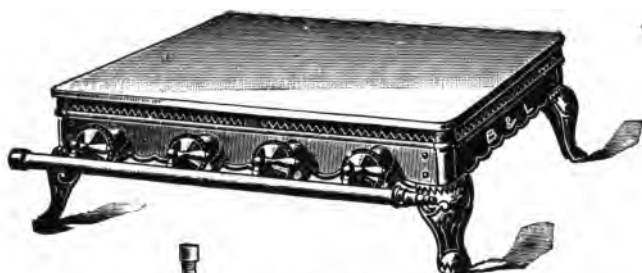
- 13090. Burner, Fletcher's Low and High Temperature.** By lighting the ring burner a steady current of warm or hot air passes up through the gauze and serves for drying or evaporating purposes. For boiling, etc., the gas is lighted above the gauze, which with the blast from below produces a hot flame. (See page 114.) **Each \$2.40**
- 13092. Burner, Fletcher's Radial.** Will boil 2000 cc. of water in twelve minutes. Very strong, being made in one casting. **Each \$1.20**
- 13094. Burner, Fletcher's Radial.** Made of annealed cast iron and very strong. Works equally well with coal, water or air gas, producing a practically solid flame which does not run to a point in the center.

Diameter of burner ring, mm.	90	125
Each	1.80	2.40

- 13096. Burner, Fletcher's Solid Flame.** Large size; for large pans and quick boiling. **Each \$2.00**
- 13098. Burners, Fletcher's Star.** With support for vessels. The flame issues radially from the support, thus equalizing the heat over a large surface.

Diameter, mm.	40	75	90
Each	.85	.95	1.10

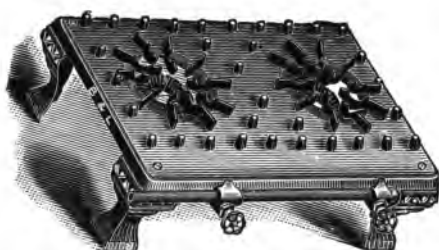
New York, Boston, Chicago, U. S. A. Frankfurt a/M., Germany.



13116



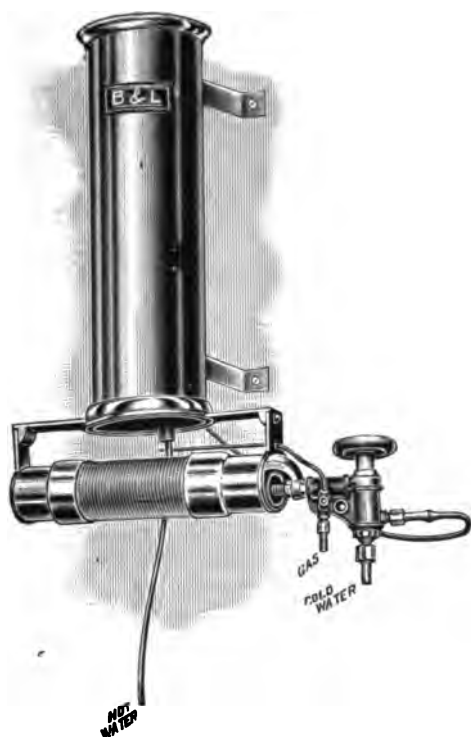
13104, 13106



13114

- 13100. Burner, Friedburg's Safety.** For coal or gasoline gas. The air enters the top of the chamber surrounding the burner tube and is heated before mixing with the gas, thus producing a hot flame with small amount of gas. Cannot light back. The air supply is regulated by telescoping the tubes. (See page 115.) **Each \$1.00**
- 13102. Burner, Friedburg's Safety.** Same construction as No. 13100 but with joint for inclination. **Each \$1.00**
- 13104. Burner, Gasoline, Dangler's.** A powerful burner with which, under ordinary pressure, a temperature of 1100°F. can be obtained, and much higher if desired. With tin reservoir. **Each \$7.00**
- 13106. Burner, Gasoline, Dangler's.** Same as No. 13104, but with copper reservoir. **Each \$8.00**
- 13108. Burner, Gasoline, Kellogg's.** Requires no wick and produces as much heat as several Bunsen burners. Is odorless, and is an excellent burner where gas is not available. Complete as per illustration. (See page 115.) **Each \$14.00**
- 13112. Burner, Gasoline, Kellogg's.** Lamp only. **Each \$3.60**
- 13112. Burner, Gasoline, Kellogg's.** Pain burner only. **Each \$3.60**
- 13113. Burner, Tyrell's.** For gasoline gas. **Each \$1.25**
- 13114. Burner, Hot Plate.** With two radial burners, 95 mm. diameter, controlled by separate stop cocks. Size of plate, 290x475 mm. **Each \$6.00**

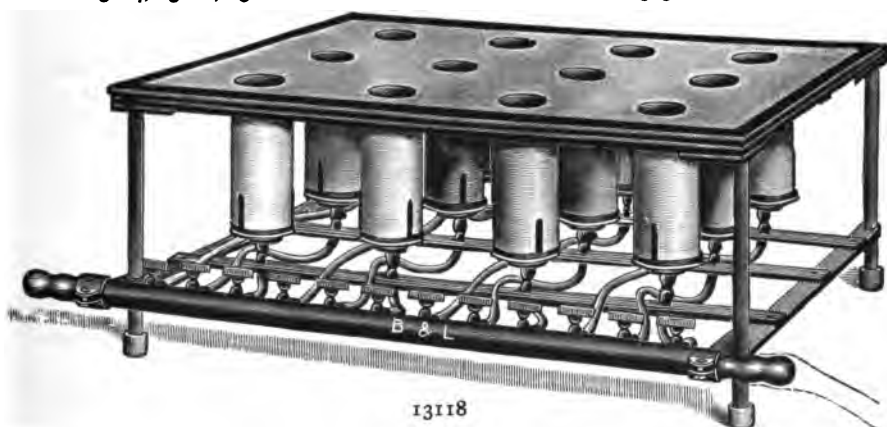
13116. Burners, Hot Plate. With polished steel top. Extra heavy.							
Length, mm.	360	460	610	765	915	1220	1220
Width, mm.	180	360	460	460	460	460	610
Each	7.25	12.00	17.00	22.00	27.00	43.00	60.00



13124, 13126, 13128



13138



13118

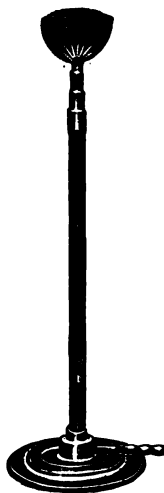
13118. Burner, Hot Plate. As designed by Dr. Edward S. Johnson. Rigid, compact, and readily controlled. Consists of twelve lava-tip Argand burners with clay chimneys regulated by separate stop cocks conveniently arranged on one pipe in front. The vessels to be heated are supported on an asbestos pad rimmed with copper. Height, 225 mm., top, 450x625 mm. **Each \$40.00**

Burners, Hot Plate. Other forms, see SAND BATHS.

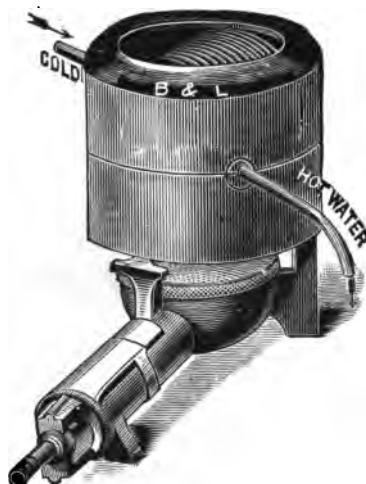
13120. Burners, Illuminating. Height, 300 mm. (See page 118.)

Each \$1.00

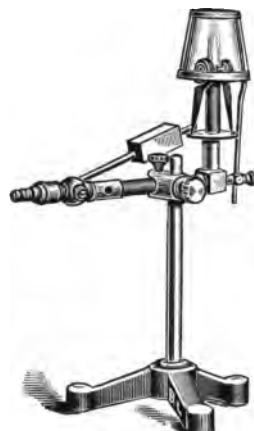
Burners, Illuminating. Other forms, see LAMPS.



13120



13122



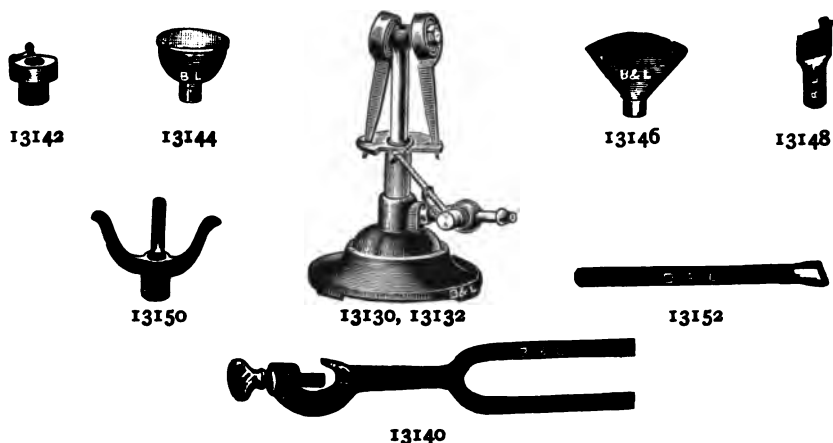
13134

13122. Burners, Instantaneous Water Heater. When connected with cold water supply, will deliver hot water in three seconds after lighting. By properly regulating the gas and water supplies, boiling, hot, or warm temperature may be maintained. The water attachment is removable, leaving the burner for other purposes. **Each \$6.00**

Burners, Instantaneous Water Heater. Give instantly a continuous flow of water at any temperature from lukewarm to boiling. The small size will heat 500 cc. of water per minute from 50° to 130°F. or will boil 15 liters per hour. The large size has double this capacity. The gas supply should be from a 10 mm. pipe. It works equally well, but at a proportionately slower rate, with any gas supply, however small. A recent improvement is the addition of a pilot light attachment which keeps the water in the coil constantly warm and automatically lights the burner when the gas is turned on; also a coupled gas and water tap operated by a hand wheel, a turn of which lights the burner and gives an immediate flow of warm water. (See illustration, page 117.)

Sizes
Small Large

- | | | |
|---|---------------------|----------------|
| 13124. Burners, Instantaneous Water Heater. | | |
| Heater without taps. | Each \$13.20 | \$18.00 |
| 13124. Burners, Instantaneous Water Heater. | | |
| Heater with gas taps and pilot light. | Each \$15.60 | \$20.40 |
| 13124. Burners, Instantaneous Water Heater. | | |
| Heater with coupled taps and pilot light. | Each \$22.80 | \$28.80 |
| Burners, Koch's Safety. For shutting off the flow of gas when the flame goes out by reason of low gas pressure, draughts, or other cause. An invaluable burner for apparatus that is to be left without constant attention. (See also illustration, page 119.) | | |
| 13130. Burners, Koch's Safety. Small size, with support. | Each | \$4.50 |
| 13132. Burners, Koch's Safety. Medium size, with support. | Each | \$5.00 |
| 13134. Burners, Koch's Safety. Large size, with adjustable support. | Each | \$10.00 |
| 13136. Burners, Koch's Safety. Large size, with two burners and adjustable support. | Each | \$13.50 |



13138. Burner, Test Tube. After design of Dr. Edward S. Johnson. For large test tubes. Consists of eight revolving clamps which support the tubes over eight Bunsen burners. Samples of steel in nitric acid may be brought to boil almost simultaneously. A slight movement of the clamps to one side suffices to arrest boiling. Made of brass and finished in the best manner. **Each \$30.00**

Burners, Other Forms. See BLAST LAMPS, LAMPS, SAND BATHS AND STOVES.

13140. Burner Fork. For supporting burners on apparatus stand.

Each \$0.50

13142. Burner Tip. Crown top, giving round flame. May be screwed into tripod No. 13150. **Each \$0.35**

13144. Burner Tip. Gauze top, giving large round flame. **Each \$0.25**

13146. Burner Tip. Wing top, for bending glass tubing. **Each \$0.10**

13148. Burner Tip. With rest for blowpipe. **Each \$0.15**

13150. Burner Tripod. For supporting dishes, etc., over burner. May be used with tip No. 13142.

	Sizes	Small	Large
Each		.15	.20

13152. Burner Tube. Fits inside the burner; for blowpiping with yellow flame. **Each \$0.15**

Calipers. See MEASURES.

13153. Calorimeter, Junkers'. For the estimation of heat values. Price and information given on application.

13154. Calorimeter, Standard. Designed by Prof. S. W. Parr. The marked features of the method are accuracy, simplicity, ease and rapidity of manipulation. The results are absolute and not relative. The operations are such as can be carried on by one not specially skilled in laboratory processes. Oxygen under high pressure or any pressure is not used. The time consumed in conducting a test on a weighed and dried sample should not exceed fifteen or twenty minutes. With this instrument a determination of the heat units has been made on the various types of fuel selected from widely different sources. Comparison has also been made with results obtained by means of the most elaborate and expensive form of bomb calorimeter, using oxygen under pressure of 25 atmospheres, with practically the same results.



13154

The outfit consists of the apparatus as illustrated (except motor and support) including a fine thermometer graduated to $1/20^{\circ}$ F., a two-liter measuring flask, chemical receptacle, measuring cup, 125 mm., 100 mesh brass sieve with bottom, chemicals sufficient for fifty determinations, special chemical for petroleum, etc., pincers, ignition wire, reading lens and camel's hair brush.

- | | | |
|--|------------------|-----------------|
| 13154a. Complete for wire ignition. | Each, Net | \$65.00 |
| 13154b. Complete for electrical ignition including battery. | Each, Net | \$70.00 |
| 13154c. Complete with photometer for sulphur determination, wire ignition. | Each, Net | \$80.00 |
| 13154d. Complete with photometer for sulphur determination, electrical ignition. | Each, Net | \$85.00 |
| 13154e. Complete with photometer and total carbon apparatus, wire ignition. | Each, Net | \$106.00 |
| 13154f. Complete with photometer and total carbon apparatus, electrical ignition. | Each, Net | \$111.00 |

Extras.

The following items are not included in the regular outfit, but may be ordered as extras:

- | | | |
|--|------------------------|---------------|
| 13156. Water motor and support. | Each, Net | \$5.00 |
| 13158. Bunsen burner with rubber tubing. | Each, Net | \$0.75 |
| 13160. Hot air oven, copper, 150x200 mm. | Each, Net | \$5.00 |
| 13162. Thermometer for oven. | Each, Net | \$1.40 |
| 13164. Chemical. | Per can, Net | \$0.50 |
| 13166. Special chemical for carbon determination in coke. | Per bottle, Net | \$0.75 |
| 13167. Special chemical for sulphur determination in coke. | Per bottle, Net | \$0.75 |
| 13168. Mortar and pestle. | Each, Net | \$0.75 |
| 13170. Watch glasses, ground edges. In pairs, including clip. | Per pair, Net | \$0.50 |
| 13172. Extra thermometer, graduated to $1/20^{\circ}$ F. | Each, Net | \$8.00 |
| 13173. Calorimeter, Mahler's Bomb and the following extras: Standard Normal Thermometers graduated to $1/50^{\circ}$ C.; battery (Pile de M. Trouve); pump for compressing oxygen to 25 atmospheres. Imported to order. Prices on application. | | |
| 13173a. Candles, Paraffine. (12 weigh one pound.) | Per ten | \$0.20 |
| 13173b. Candles, Standard. For Photometric work. (12 weigh one pound.) | Per ten | \$2.00 |

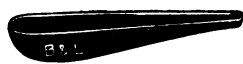
Caoutchouc Stoppers. See RUBBER STOPPERS.



13176



13178, 13180



13174



13184



13186, 13192



13188



13182, 13190

13174. Capsules. Of horn.

Each \$0.15

13176. Capsules. Royal Meissen Porcelain.

Numbers	1	2
Diameter, mm.	50	45
Depth, mm.	25	22
Each	.20	.15

Carbon Plates for Batteries. See BATTERIES.

Carbonic Acid Apparatus. See ALKALIMETERS.

13178. Casseroles, Agateware. Flint enameled; seamless; acid proof.

Capacity (approx.) cc.	500	750	1000	2000
Diameter, mm.	110	125	150	175
Each	.35	.40	.45	.60

13180. Casseroles, Agateware. Agate nickel steel; seamless.

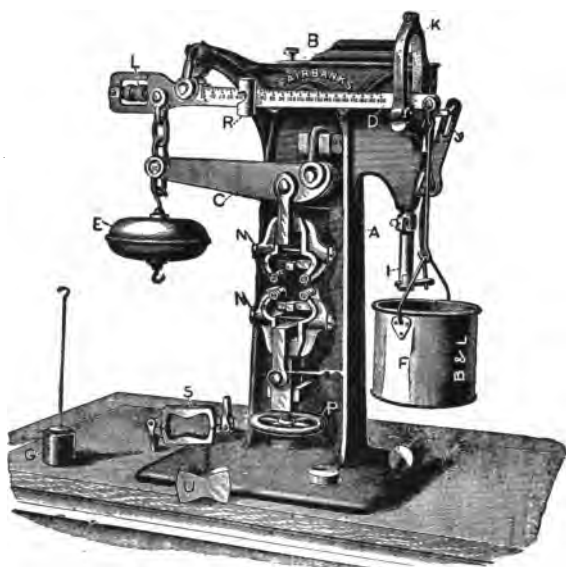
Capacity (approx.) cc.	500	750	1000	2000
Diameter, mm.	110	125	150	175
Each	.25	.30	.35	.45

13182. Casseroles, Imperial Berlin Porcelain. With porcelain handle.

Capacity, cc.	30	70	100	125	250	375	625	1000	2000
Diameter, mm.	50	65	75	85	100	110	130	160	230
Each	.20	.25	.35	.40	.45	.70	.85	1.25	2.75

13184. Casseroles, Imperial Berlin Porcelain. With porcelain handle and cover.

Capacity, cc.	30	70	100	125	250	375	625	1000	2000
Diameter, mm.	50	65	75	85	100	110	130	160	230
Each	.30	.40	.50	.55	.60	.70	1.25	1.85	4.00



13194

13186. Casseroles, Imperial Berlin Porcelain. With wooden handle.

Capacity, cc.	125	250	375	625	1000	2000
Diameter, mm.	90	110	130	140	160	200
Each	.35	.50	.65	.95	1.10	1.60

13188. Casseroles, Imperial Berlin Porcelain. With wooden handle and porcelain cover. (See illustration, page 121.)

Capacity, cc.	125	250	375	625	1000	2000
Diameter, mm.	90	110	130	140	160	200
Each	.45	.60	.90	1.20	1.50	2.20

13190. Casseroles, Royal Berlin Porcelain. With porcelain handle.

Numbers,	1	2	3	3a	4	5	6	7
Capacity, cc.	30	75	150	310	375	750	1250	2000
Diameter, mm.	50	70	85	95	110	135	165	175
Each	.35	.40	.50	.70	.90	1.40	1.75	3.00

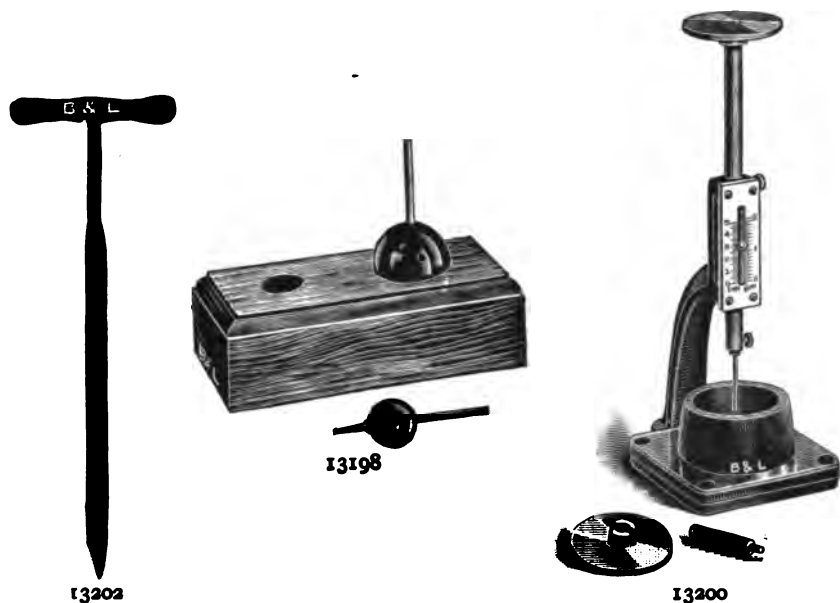
13192. Casseroles, Royal Berlin Porcelain. With wooden handle.

Numbers,	00	0	1	2	3	4
Capacity, cc.	165	245	350	500	900	1500
Diameter, mm.	85	95	105	120	140	170
Each	.55	.75	.95	1.50	1.85	2.35

Cement Testing Apparatus.

13194. Cement Tester, Improved Automatic. This type of machine, in which the weight is applied by a stream of shot which runs from a reservoir into a pail suspended at the end of a steel-yard arm and which is cut off automatically when the briquette breaks, is officially recognized as decidedly preferable to others on account of its greater simplicity, smaller bulk, and regular application of the weight. Size, 300 x 800 mm.

Capacity, lbs.	600	1000	2000
Each, Net	85.00	110.00	150.00



13196. Extra moulds for briquettes for No. 13194. **Each, Net \$4.00**

13198. Cement Tester, Gilmore's Needles. For testing the rate of setting of cement. Consists of two steel needles, one $\frac{1}{12}$ inch diameter loaded with a $\frac{1}{4}$ pound weight, the other $\frac{1}{24}$ inch diameter loaded with a 1 pound weight. These are held lightly in a vertical position between the fingers, the points resting upon the specimen. The moment when the coarse needle fails to sink into the cement is called the time of initial setting; when the fine needle will no longer penetrate, the moment of final setting. **Per set, Net \$5.00**

13200. Cement Tester, Vicat's. To obtain the rate of setting of cement. Consists of a cylindrical rubber mould, 100 x 100 mm. for the sample, a piston carrying the disc weights on its upper end and the plunger, 10 mm. diameter, and needle, 1 mm. diameter, at its lower end, and a scale for the readings. If the plunger under the lighter weight, penetrates to a point 6 mm. from the bottom, the sample is of proper consistency. The needle and the heavier weight are then substituted, and the moment when the needle refuses to sink entirely through the sample is the moment of initial setting; when it first rests upon the surface without penetrating, the moment of final setting. **Each, Net \$30.00**

13202. Sampler. For obtaining samples of cement from the center of the barrel. The point being an auger enables one to bore through the staves. **Each, Net \$7.50**

Sieves for Cement Testing. See SIEVES.

Specific Gravity Bottles for Cement Testing. See BOTTLES.



13204



13208



13206

The Centrifuge is now in general use for the clinical examination of blood, urine, milk, and sputum, and for the collection of the organisms or solids in water, chemical precipitation, etc. Information as to methods and construction will be found in our manual, "Centrifugal Analysis," sent gratis on request.

The Centrifuge applied to urinary analysis permits the estimation of the per cent. of Albumen, Chlorides, Phosphates, and Sulphates in three minutes time at the bedside if desired, and the collection of cellular elements for microscopical examination.

Daland's Haematokrit gives the number of red corpuscles in the blood, also in three minutes, and without the necessity of diluting it.

Our Centrifuges are everywhere acknowledged as the best in design and workmanship. They embody the correct principles of construction as laid down by the eminent authorities who have assisted in their development and results as described in the literature on the subject can only be obtained by the use of our standard instruments. Every Centrifuge of our manufacture has our firm name engraved across the front of the case. *Any instrument offered without our name is not our make.*

Our hand Centrifuges are extremely compact and yet strong and durable. The use of phosphor bronze and spirally cut gears, together with accurate workmanship throughout, enable us to produce a very easy, quiet running, and lasting machine which we sell at a very moderate price. The gears are all enclosed in the dust proof case.

13204. Centrifuge, Single Speed. Gives 3000 revolutions per minute. For urine, sputum, milk, and water analysis. Complete with one graduated and one ungraduated sedimentation tube. **Each \$10.00**

13206. Centrifuge, Double Speed. Gives speeds of 3000 to 10,000 revolutions per minute. For counting blood corpuscles, and for urine, milk,



13218



13222



13224



13226



13228



13220



13210



13214

sputum, and water analysis. The change from low speed to high speed and vice versa is effected by simply changing the handle from one axle to the other. Complete with Daland's Haematokrit for collecting blood corpuscles, automatic pipette for filling haematokrit tubes, one graduated and one ungraduated sedimentation tube, and two sputum tubes for collecting bacteria from sputum.

Each \$15.00

13208. Centrifuge Blood Lancet, Moore's. For puncturing the skin to obtain a drop of blood. The depth of puncture may be regulated, and a locking device prevents injury to the person while carrying the instrument in the pocket. (See page 124.)

Each \$1.50

13210. Centrifuge Carrying Case. This case is arranged to take either the single or double speed centrifuge, with all accessories, including a box for object slides. It is covered with fine leather, has nickeled hinges and lock, and is lined with velvet.

Each \$4.00

13212. Centrifuge Clamp. For attaching the centrifuge to the table.

Each, Net \$0.50

13214. Centrifuge Four Tube Attachment. This attachment is used in Board of Health and other laboratories for milk analysis, etc., as New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.

- four tests can be made at one time. Fits either single or double centrifuge. With four milk tubes. **Each \$5.00**
13216. **Centrifuge Guard for Haematokrit.** This attachment consists of a metal shield which fits over the haematokrit, so that the revolving parts are entirely enclosed. **Each \$2.00**
13218. **Centrifuge Milk Tubes.** These tubes are used for milk analysis in place of the regular sedimentation tubes and are graduated to give percentage readings of fats in milk according to the Leffman-Beam or Babcock methods. Very useful for human as well as cow's milk analysis. **Each \$0.50**
13220. **Centrifuge Percentage Tubes.** For the haematokrit. With accurate lumen, lens-edge to magnify column of blood and the graduations, and graduated in millimeters from 0 to 100. **Each \$0.50**
13222. **Centrifuge Pipette.** For filling milk tubes. Graduated to 1 cc. **Each \$0.10**
13224. **Centrifuge Pipette.** For filling haematokrit tubes. **Each \$0.75**
13226. **Centrifuge Sedimentation Tubes.** Graduated in 1/10 cc. to 10 cc., with conical end to aid in reading small deposits. **Each \$0.35**
13228. **Centrifuge Sedimentation Tubes.** Ungraduated. For collecting sediments for microscopical examination. **Each \$0.15**
13230. **Centrifuge Shield Tubes.** Of aluminum. These shields protect the glass sedimentation tubes. They are regularly furnished with the centrifuge, but are listed extra for renewal in case of damage. **Each \$0.25**
13232. **Centrifuge Sputum Tubes.** For use in haematokrit frame. Same shape as percentage tubes. Ungraduated. **Each \$0.25**
- Centrifuge, Water Power.** Where the electric current cannot be had and a centrifuge for blood work is not required, the Water Power Centrifuge offers all the advantages of the electric at a much less cost. It utilizes a cheap and common source of power. Our instrument is compact, strong, durable, and handsomely finished. It is made entirely of metal.
- The bearings and working parts are carefully fitted to ensure high speed, smooth and easy running with lasting qualities.
- The instrument runs at highest speed without noise. The water motor is of latest design and utilizes the greatest possible amount of the force applied. Ordinary water pressure will run the instrument at a speed sufficient for sputum, urine, milk, and water analysis. Varying speeds are obtained by reducing the water supply.
- Every instrument of our make bears our name.** (See illustration, page 127.)
13234. **Centrifuge, Water Power.** Complete with two-arm sedimentation attachment, ungraduated tube for collection of sediment for microscopical examination and graduated tube for percentage determinations. **Each \$12.00**
- Centrifuge, Electric.** This electric centrifuge should be in the hands of every physician and laboratory where electric current can be had as its use does away with a vast amount of manual labor and its noiseless operation renders it unobjectionable to the most sensitive patient.



13236



13234

One deposit can be examined while the next specimen is in the centrifuge. The instrument is reduced to the smallest possible size. The attractive design of the case and its superior finish make it a pleasant object in the office. The case is of solid metal, giving stability and protecting the enclosed parts from dust and damage. Frictionless bearings secure highest speed. The motor is for direct current of 115 volts, although voltages of 110 to 120 may be used. A very important feature of our instrument is the improved and compact rheostat enclosed in the base, thus doing away with the cumbersome separate rheostats heretofore used. Speeds varying from lowest to highest are obtained by simply moving the lever of the rheostat. The instrument is simply connected with an ordinary incandescent lamp socket by means of plug and cord supplied. It is the best apparatus for blood, sputum, urine, milk, and water analysis. The speed is sufficient for Daland's Haematokrit. We test every instrument thoroughly before it leaves our factory, and *our name is engraved on every one as a guarantee of its excellence.*

tation attachment, ungraduated tube for collection of sediment for
13236. Centrifuge, Electric, complete with Haematokrit, two-arm sediment-microscopical examination and graduated tube for percentage determinations. **Each, Net \$30.00**

13238. Chalk Sticks, or Lime Cylinders. For calcium light. **Per dozen \$1.45**

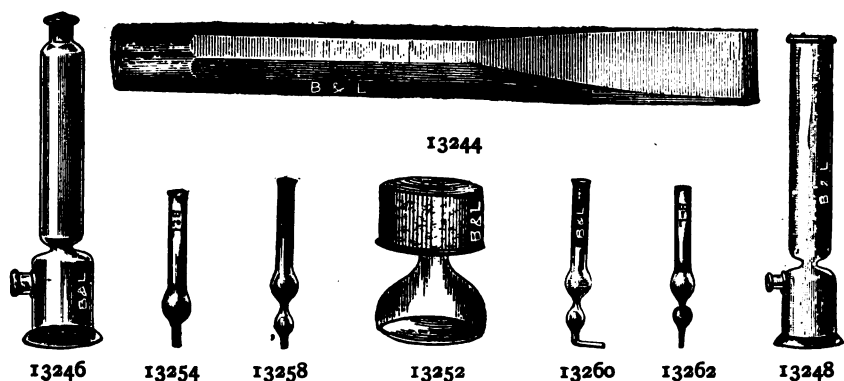
13240. Chamois Skin. Of superior quality. Size, 375 x 500 mm. **Each \$0.35**

Charcoal. See BLOWPIPE APPARATUS.

13242. Charcoal Sticks. For cutting glass. **Per ten \$0.70**

13244. Chisels. Of best tool steel. Superior quality. (See page 128.)

Face, mm.	8	10	12	18	25
Each	.20	.28	.35	.50	.85



13246. Chlorid Calcium Cylinders or Jars. Narrow mouth; on foot, with tubulature near bottom.

Height, mm.	210	260	315	350	420	470
Diameter, mm.	25	40	45	50	55	75
Each	.50	.60	.75	.90	1.10	1.90

13248. Chlorid Calcium Cylinders or Jars. Wide mouth; on foot; with tubulature near bottom.

Height, mm.	210	260	315	350	420	470
Diameter, mm.	25	40	45	50	55	75
Each	.50	.60	.75	.90	1.10	1.90

13250. Chlorid Calcium Glass Support. To prevent the calcium chlorid from falling into the lower chamber. Each \$0.30

13252. Chlorid Calcium Holder. For balance cases. Each \$0.75

13254. Chlorid Calcium Tubes. With one bulb; straight.

Length, mm.	100	125	150	200	250
Each	.08	.09	.10	.12	.18

13256. Chlorid Calcium Tubes. Bent.

Length, mm.	100	125	150	200	250
Each	.08	.09	.10	.12	.18

13258. Chlorid Calcium Tubes. With two bulbs; straight.

Length, mm.	100	125	150	200
Each	.09	.10	.12	.18

13260. Chlorid Calcium Tubes. Bent.

Length, mm.	100	125	150	200
Each	.09	.10	.12	.18

13262. Chlorid Calcium Tubes. With two bulbs, and inner tube to collect moisture.

Length, mm.	100	125	150	200
Each	.12	.15	.18	.20

13264. Chlorid Calcium Tubes. With ground-in outlet tubes.

Length, mm.	100	125	150
Each	.40	.50	.65



13264



13266



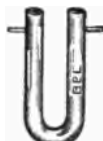
13268



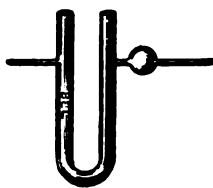
13270



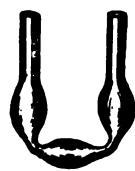
13272



13274



13276



13278

13266. Chlorid Calcium Tubes, Marchand's.

Length, mm.	100	120	150
Each	.20	.25	.30

13268. Chlorid Calcium Tubes, Schwartz'. With side tubes and perforated glass stoppers.

Length, mm.	100	120	150	180	200
Each	.65	.75	.90	1.00	1.25

13270. Chlorid Calcium Tubes. U-shaped.

Length, mm.	75	100	125	150	175	200	250	300
Each	.12	.14	.16	.18	.20	.25	.35	.40

13272. Chlorid Calcium Tubes. U-shaped; with glass rod.

Length, mm.	100	125	150
Each	.25	.28	.30

13274. Chlorid Calcium Tubes. U-shaped; with two side tubes.

Length, mm.	100	120	150	180	200
Each	.14	.18	.20	.25	.30

13276. Chlorid Calcium Tubes, Vollhard's. With two side tubes and bulb.

Length, mm.	125	150	200
Each	.25	.30	.45

13278. Chlorid Calcium Tubes, Woehler's. With three bulbs.

Length, mm.	100	125	150	180	200
Each	.25	.30	.40	.55	.70

13280. Chopper, Meat. For mincing substances in 'making culture media. All parts are well tinned and can be readily taken apart for cleaning. (See illustration, page 130.)

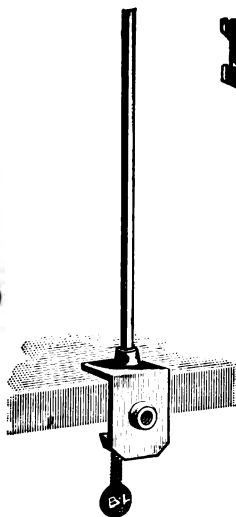
Weight, kilos.	2	3	4	6
Each, Net	1.50	2.00	3.00	4.50

13282. Clamp, Apparatus, Ostwald's Universal. Takes tubes of all sizes from 1 to 50 mm. diameter. Made of brass. (See page 130.)

Each \$1.25



13280



13284



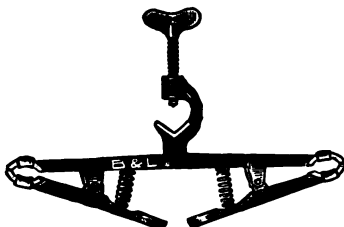
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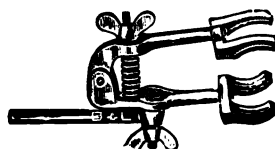
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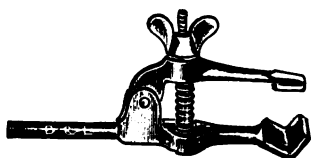
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13290



13286

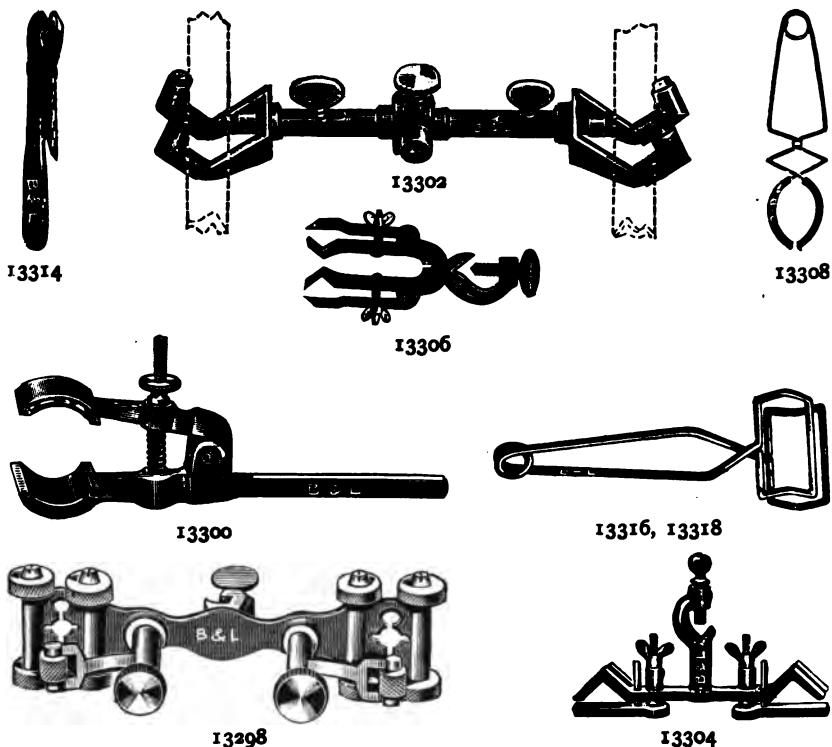


13296



13282

13284. Clamp, Apparatus, Universal. For holding rods vertical or horizontal. Each \$0.50
13286. Clamp, Apparatus, Universal. The jaws adjust themselves to irregular shaped apparatus. Each \$1.00
13288. Clamp, Burette. For one burette. Each \$0.55
13290. Clamp, Burette. Double, for two burettes. Each \$0.85
13292. Clamp, Burette. Adjustable by check-nut to any angle. An excellent clamp for general use. Each \$0.45
13294. Clamp, Burette. Nickeled; with rubber-covered jaws, and screw for attachment to apparatus stand. Each \$0.50
13296. Clamp, Burette. With cork-lined jaws. Each \$0.65
13298. Clamp, Burette. With rubber rings; closes automatically; double form. (See illustration, page 131.) Each \$3.00
13300. Clamp, Burette. For holding burettes or tubes at any angle; with cork-lined jaws. (See illustration, page 131.) Each \$0.75



13302. Clamp, Burette, Allihn's Automatic. For two burettes. Each \$3.00
 13304. Clamp, Burette, Hoffman's. For two burettes. Each \$0.75
 13306. Clamp, Burette, Lunge's. For supporting two tubes parallel. Each \$1.50
 13308. Clamps, Chaddock's. Made of spring wire, japanned; with rubber-covered jaws for beakers.

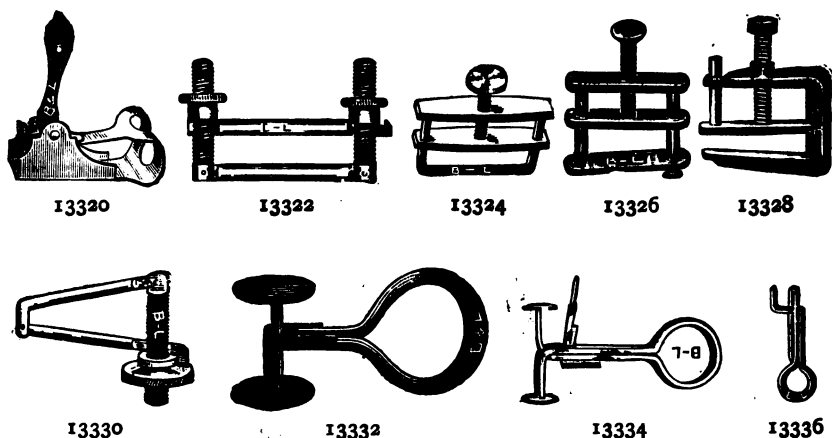
	Sizes	Small	Large
Each		.25	.25

	Sizes	Small	Medium	Large
Each		.25	.25	.25

13310. Clamps, Chaddock's. For dishes.
 13312. Clamps, Chaddock's. For flasks or test tubes; with rubber-covered jaws. Each \$0.25
 13314. Clamp, Test Tube. Of wood. Each \$0.15
 13316. Clamps, Test Tube, Stoddard's. Of brass.

	Sizes	Small	Large
Each		.15	.20

	Sizes	Small	Large
Each		.10	.15



13320. Clamps, Tubing. Nickelplated; for rubber tubing.

Size of opening, mm.	5	8
Each	.30	.50

13322. Clamp, Tubing, Bunsen's. For rubber tubing. Made of brass, nickel plated. Size 18 x 38mm. **Each \$0.35**

13324. Clamps, Tubing, Hoffman's. For rubber tubing; nickel plated.

Sizes	Small	Large
Each	.20	.25

13326. Clamps, Tubing, Hoffman's. Improved form. Can be attached to tubing without disconnecting apparatus.

Sizes	Small	Large
Each	.20	.25

13328. Clamps, Tubing, Hoffman's. Improved form. Can be attached to tubing without disconnecting apparatus.

Sizes	Small	Large
Each	.25	.30

13330. Clamp, Tubing. (Lever Screw Compressor). For rubber tubing; nickel plated. Size, 12mm. **Each \$0.30**

13332. Clamps, Tubing, Mohr's Pinch Cock. Of spring wire.

Sizes	Small	Medium	Large
Each	.10	.12	.15

13334. Clamps, Tubing, Mohr's Pinch Cock. With device for holding clamp open.

Sizes	Small	Medium	Large
Each	.25	.25	.35

13336. Clamp, Tubing, Scheibler's Pinch Cock. Of spring wire.

Each \$0.15

13338. Clamps, Watch Glass. Of brass, nickel plated.

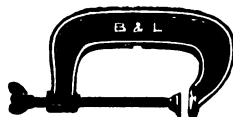
Sizes	Small	Large
Each	.12	.15



13340



13348



13346



13342, 13344



13350



13352



13356

13340. Clamps, Watch Glass. With two watch glasses ground tight.

Diameter of glasses, mm.	50	65
Per set	.30	.40

13342. Clamps, Watch Glass, Bunsen's.

Diameter, mm.	50	65
Each	.10	.12

13344. Clamps, Watch Glass, Bunsen's. With two watch glasses.

Diameter, mm.	50	65
Per set	.30	.40

13346. Clamps. Of iron; for fastening apparatus to table.

Sizes, mm.	50	75	100	125	150	175	200
Each	.16	.25	.35	.45	.50	.65	.75

13348. Clamp Holders. For attaching clamps, extension rings, ring burners, etc., to apparatus support.

Sizes	Small	Large
Each	.20	.25

13350. Clamp Holder, Universal. To set at any angle.

Each \$0.50

Cobalt Bottles. See BOTTLES.

Cobalt Glass. See GLASS PLATES, BLUE.

13352. Colanders. Of porcelain; with two handles.

Diameter, mm.	140	170	200	235
Each	.85	1.20	1.75	2.10

13354. Colanders. Of porcelain; with flat bottom.

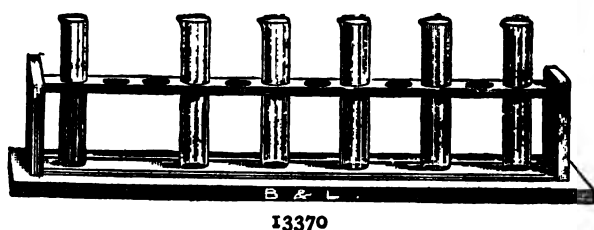
Diameter, mm.	150	250
Each	1.00	1.75

13356. Colander. Of porcelain; with handle. Diameter, 160 mm.; height, not including handle, 150 mm.

Each \$2.25

13358. Colander. Of stoneware; with handle.

Each \$1.50



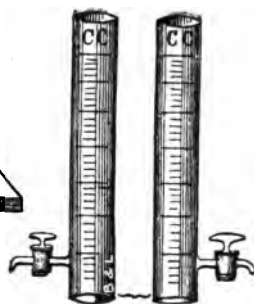
13370



13366



13364



13374



13360

Colorimetric Determination Apparatus.

13360. Carbon Filter Tubes. Length, 75 mm.

Diameter, mm.	20	25	30	35	40
Each	.15	.20	.25	.30	.40

13362. Carbon Tubes. Not graduated; in sets of twelve to agree. Size, 150 x 16 mm.

Per set	\$1.25
Per set	\$1.25

13364. Carbon Tubes. For Eggertz' color test. For the estimation of carbon in steel. The quality of these tubes is not to be compared with those usually offered on the market. The tubes of each set bear corresponding numbers so that they may be readily kept together.

Capacity, cc.	10	25	30	50	50	75	100
Graduated, cc.	1/10	1/10	1/10	1/10	1/5	1/5	1/5
In sets of two	1.35	2.00	2.40	3.00	2.50	3.25	4.00
In sets of four	2.70	4.00	4.80	6.00	5.00	6.50	8.00

13366. Carbon Tubes. With bent end. Capacity, 100 cc.; graduated in cubic centimeters, from 15 to 100 cc.

Per pair	\$3.25
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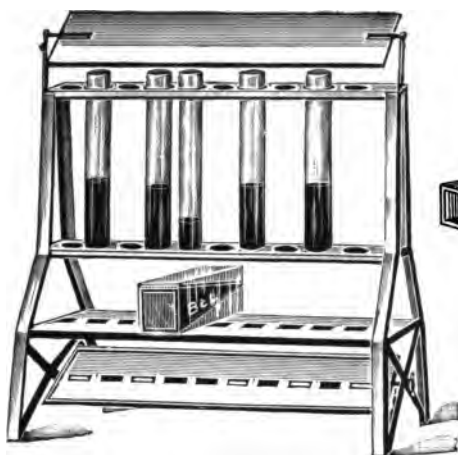
13368. Carbon Tubes. Test tube form. Graduated in 1/10 cc.

Capacity, cc.	5	10	15	20	25
Each	.30	.35	.40	.45	.50

13370. Carbon Tube Support. Of wood; for twelve tubes. Each \$1.50

13372. Color Comparator, Hehner's. Two cylinders of the same size and graduations, with stop cocks. With brass base. Each \$7.50

13374. Color Comparator, Hehner's. Without brass base. Each \$4.00



13376



13398, 13400



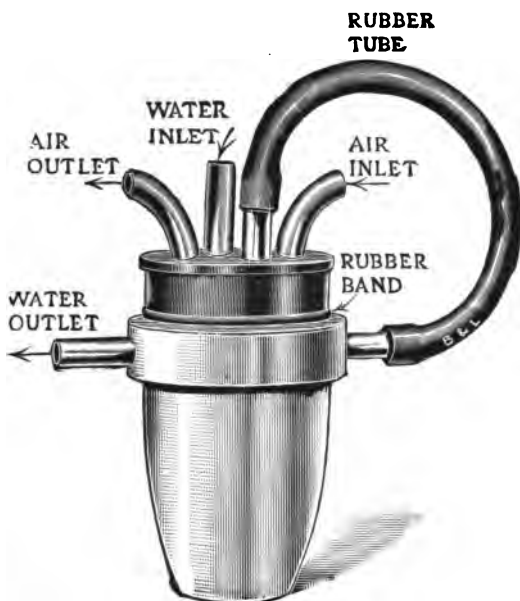
13386



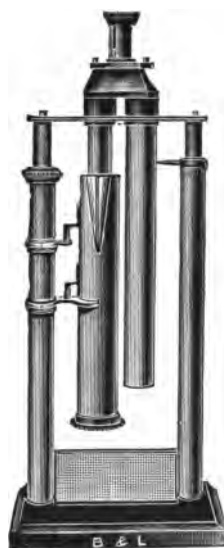
13392, 13394



13390



13396



13378

- 13376. Color Comparator, Leed's.** With prism and one dozen tubes. Each \$15.00
- 13378. Color Comparator, Stanner's.** Of the latest construction; for determining the color of sugar solutions. Each \$72.00
- 13380. Cover Glasses** for observation tubes of above instrument, optically inactive. Each \$0.15

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.

13382. Rubber Washers for observation tubes of above instrument.
Per ten \$0.30

13384. Color Comparator, Stoke's. Complete. Each \$15.00
 (Described in Blair's Analysis, 3d edition, page 173.) Illustrated
 on page 135. Each \$6.00

13386. Color Comparator or Camera. For reading carbon color tubes.

13388. Dissolving Tubes. With ground label near top for recording the number of the sample.

Length, mm.	150	180	200	225
Diameter, mm.	16	20	25	18
Per ten	.40	.50	.65	.65

13390. Nessler Tubes. For determination of ammonia in water.

Graduated, cc.	50	100	50 and 100	50, 100 and 150
Each	.35	.40	.55	.65

13392. Nessler Tubes, Tall Form. With fire polished bottom.

Length, mm.	300	375	375	450
Graduated, cc.	50	100	50 and 100	50, 100 and 150
Each	.40	.50	.60	.75

13394. Nessler Tubes, Tall Form. With bottom ground and polished.

Length, mm.	300	375	375	450
Graduated, cc.	50	100	50 and 100	50, 100 and 150
Each	.45	.60	.70	.90

Nessler Tubes 13392 and 13394 will be selected in sets 2, 4 or 6.

Water Baths. See WATER BATHS.

13396. Combustion Apparatus, Shimer's. For the determination of carbon in iron, steel, etc. Indispensable where a large number of carbon determinations have to be made, and equally useful for determining combined water in ores, minerals, cements, etc., as well as carbonic acid, and for general ignition work in atmospheres of hydrogen, nitrogen or other gases. Consists of a special platinum crucible with copper stopper and rubber band seal, provision being made for circulation of water and the transmission of air or oxygen and the products of combustion. (See illustration, page 135.)

Copper jackets for above, 30 cc. Each, Net \$10.00
 60 cc. Each, Net \$12.00

Platinum parts quoted on application.

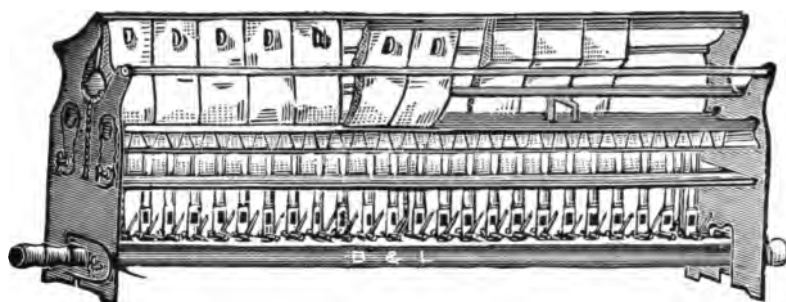
13398. Combustion Boats, Imperial Berlin Porcelain.

Length, mm.	50	61	72	90	91	115	135
Width, mm.	13	10	11	18	21	13	25
Each	.20	.20	.25	.25	.25	.25	.25

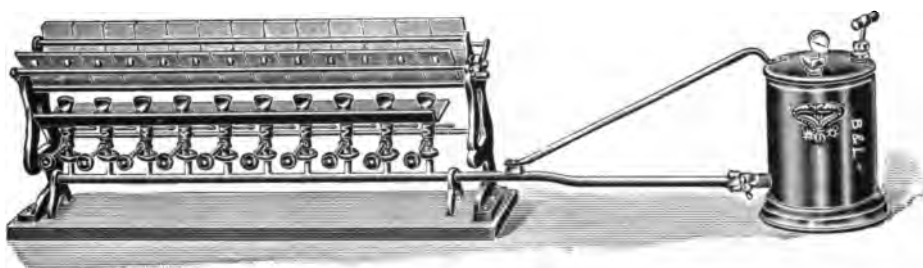
Combustion Boats of Platinum. See PLATINUM WARE.

13400. Combustion Boats, Royal Meissen Porcelain.

Length, mm.	60	70	70	90	115	145
Width, mm.	10	11	15	18	13	14
Each	.25	.25	.25	.30	.30	.35



13402



13401

13401. Combustion Furnace, Benzine. This furnace is made of the best materials throughout and is absolutely safe. It has 10 burners, each controlled by stop cock, and produces sufficient temperature for any work required. The tank is placed far enough from the burners to prevent heating and is provided with pressure pump and manometer. A separate stop cock in the connecting tube shuts off instantly the flow of benzine to the burners. **Each, Net \$63.00**

13402. Combustion Furnace, Bunsen's. Latest and most improved form; each burner is provided with separate stop cock. Complete with extra tiles and clay and iron slides.

Number of burners*	10	15	20	25
Each	17.50	23.50	29.50	36.00

Combustion Furnace, Fletcher's. For gasoline gas or coal gas. This furnace, using with it foot blower No. 12590B, will heat an iron tube 18 to 25 mm. diameter to the softening point in ten minutes; or it will heat the same tube to redness without a blast, the burner being applicable for either draft or blast. (See page 138.)

Length of furnace, mm.	300	450	600
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13404. For draft and blast; with adjustable flame length.

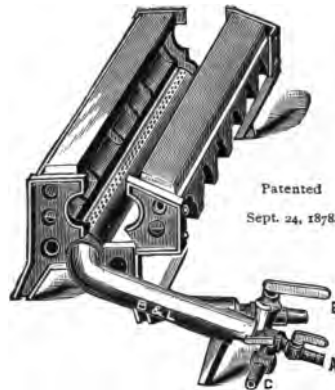
Each	\$14.40	\$19.20	\$24.00
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13406. For draft and blast; without adjustable flame length.

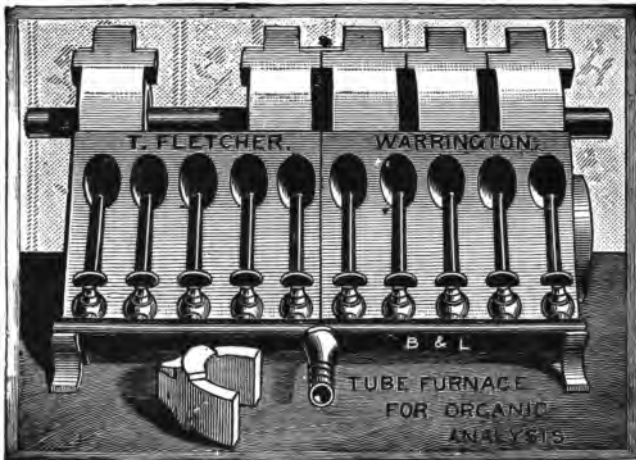
Each	\$12.00	\$15.60	\$20.40
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13408. Without blast; with fixed flame length. **Each \$9.60 \$13.20 \$16.80**

13410. Fire-clay casing blocks, 150 mm. long. **Each \$0.60**



13404, 13406, 13408



13412, 13414, 13416

13412. Combustion Furnace, Fletcher's New Pattern. Made entirely of brass, there being no iron work to rust. The burners are on the outside and in front of the furnace, clear from falling dirt. The furnace body is in 150 mm. sections and can be made up to any length without any obstruction. The burners can be made any length and any part of them used; the blocks and covers are sold separately, and the burners can be supplied in sections of 300 or 600 mm., so that any number can be used in a line without a break, enabling the furnace to be built up to any length desired. If a fixed length is required, any number of sections can be secured permanently together. In use, it is free from odor.

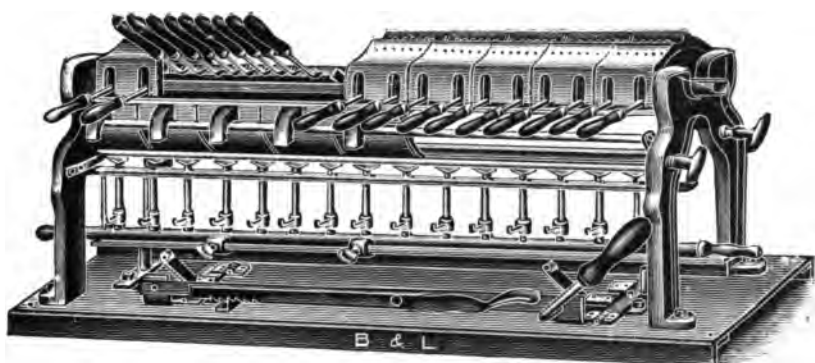
Length, mm.	300	600
Each	31.20	60.00

13414. Extra Covers for above furnace.

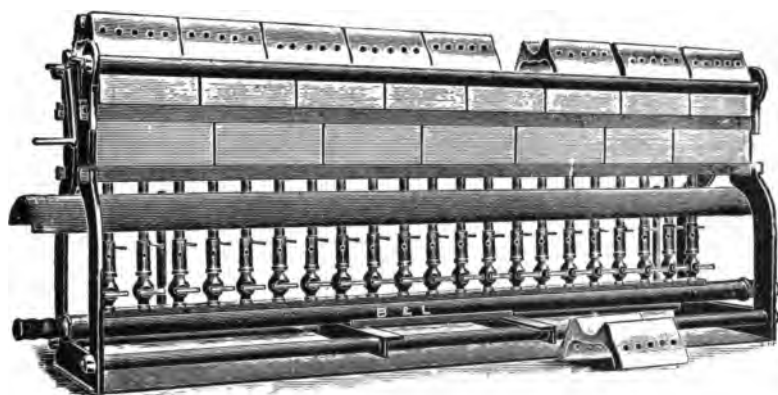
Each \$0.60

13416. Extra sections, of body, 150 mm.

Each \$5.70



13418



13420

13418. Combustion Furnace, Fuch's Latest Pattern. This furnace is easily regulated and consumes only a small amount of gas, considering the work done. It prevents the combustion tube from cracking or getting out of shape. Each \$90.00

13420. Combustion Furnace, Glazer's. Modified by Anschetz and Kekule. With mica plates to permit watching the flame during combustion. The burners are movable and are provided with spring stop cocks and nickel plated air regulators. Complete with top plates of clay.

Number of burners	10	16	21	26
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Each	30.00	40.00	50.00	60.00
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13422. Combustion Furnace, Lothar-Meyer's. For tubes. Made of iron, asbestos coated. Has adjustable burners, and iron shutters. Length of tubes, 625 mm., diameter, 30 mm. (See page 140.)

Number of tubes	4	8
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Each	38.00	41.00
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13424. Combustion Furnace, Lothar-Meyer's. Takes tubes of various dimensions, and for combustions below a cherry heat.

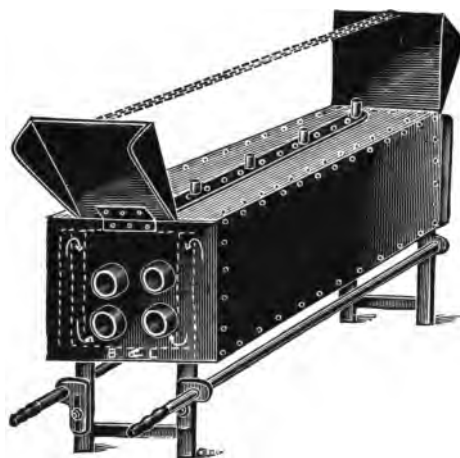
Length, mm.	500	600	800
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Each	26.00	29.00	32.00
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Combustion Spoons. See DEFLAGRATION SPOONS.



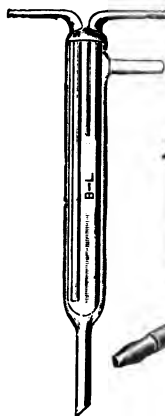
13426



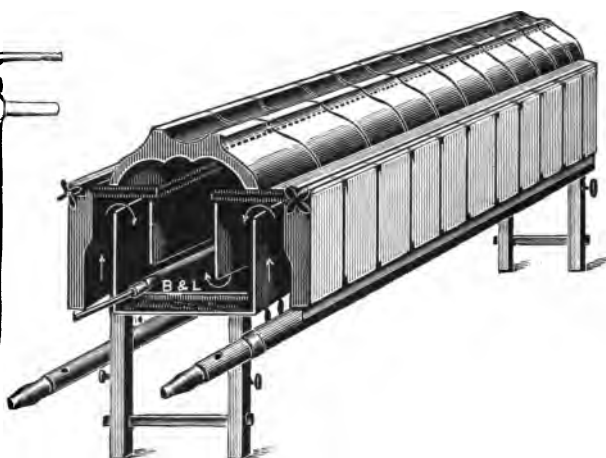
13422



13430



13438



13424



13434

13426. Combustion Tubes. Of hard Bohemian glass, drawn to a point.

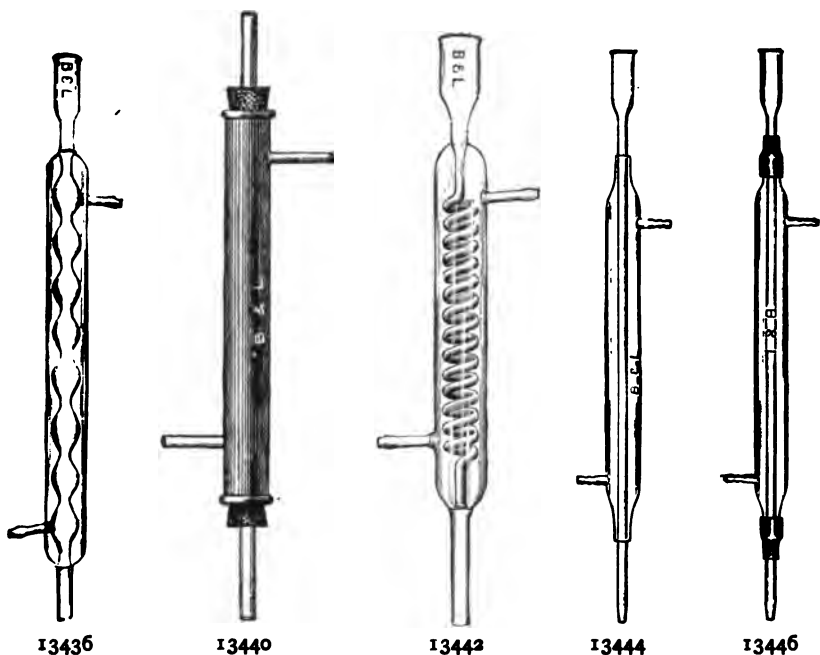
Length, mm.	300	400	600	800
Each	.18	.25	.40	.45

13428. Combustion Tubes, Imperial Berlin Porcelain. Glazed inside and outside; 600 mm. long.

Diameter, mm.	15	20	25	30
Each	1.80	2.30	2.50	3.25

13430. Combustion Tubes, Imperial Berlin Porcelain. Flanged; glazed inside; about 12 to 20 mm. inside diameter.

Length, mm.	300	450	500	600	750
Each	.60	1.35	1.60	2.10	2.80



13432. Combustion Tubes, Royal Berlin Porcelain. Glazed inside and outside; 600 mm. long.

Diameter, mm.	10	14	19	28
Each	3.50	4.25	5.00	6.75

Combustion Tubing. See GLASS TUBING.

Comparison Tubes. See COLORIMETRIC DETERMINATION APPARATUS.

13434. Condenser. Of glass, with receiver of 300 cc. capacity blown on. Length, 400 mm. (See illustration, page 140.) **Each \$2.00**

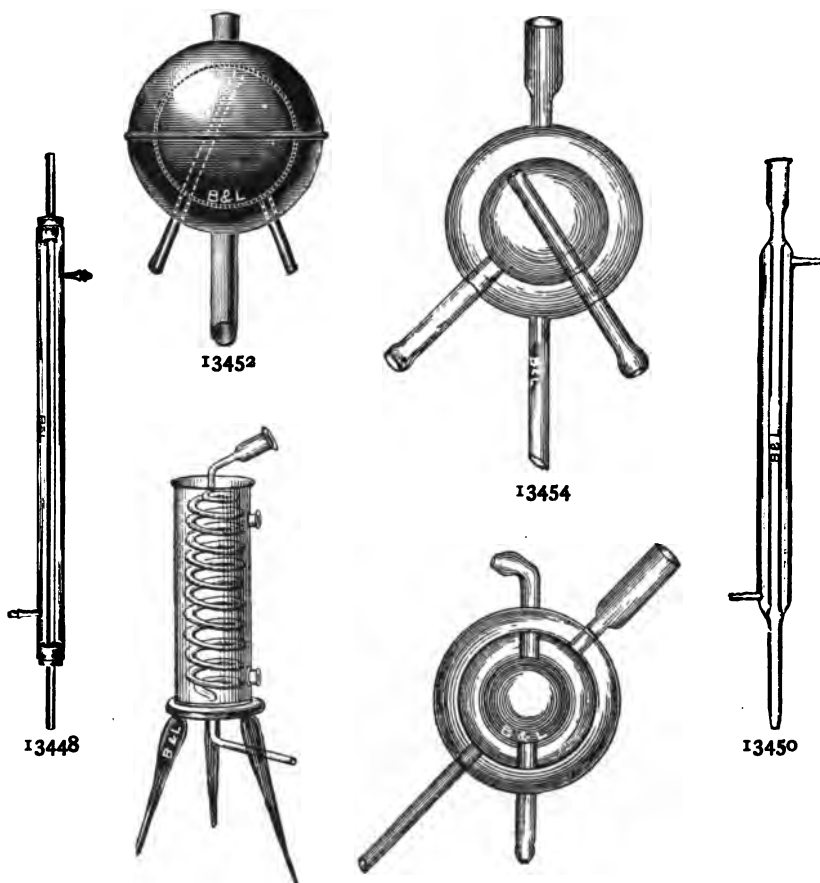
13436. Condensers, Allihn's. Of glass, with bulb condensing tube.

Length, mm.	200	300	400
Each	1.00	1.25	1.50

13438. Condenser, Hopkins'. After design by Prof. C. G. Hopkins. Made entirely of glass, and consists of a thin glass water tube, 25 mm. outside diameter and 250 mm. long, provided with inlet and outlet tubes, the former reaching to near the bottom of the water tube. The water tube is sealed into a stronger outer tube having side neck and its lower end ground to point. In use the outer tube is not cooled to a temperature at which atmospheric moisture will condense upon it, wherein lies the chief advantage of this condenser over ordinary forms in fat extraction with anhydrous ether. May also be used for ordinary distillation by passing the vapor through the side tube. Total length, 350 mm. (See page 140.) **Each \$1.50**

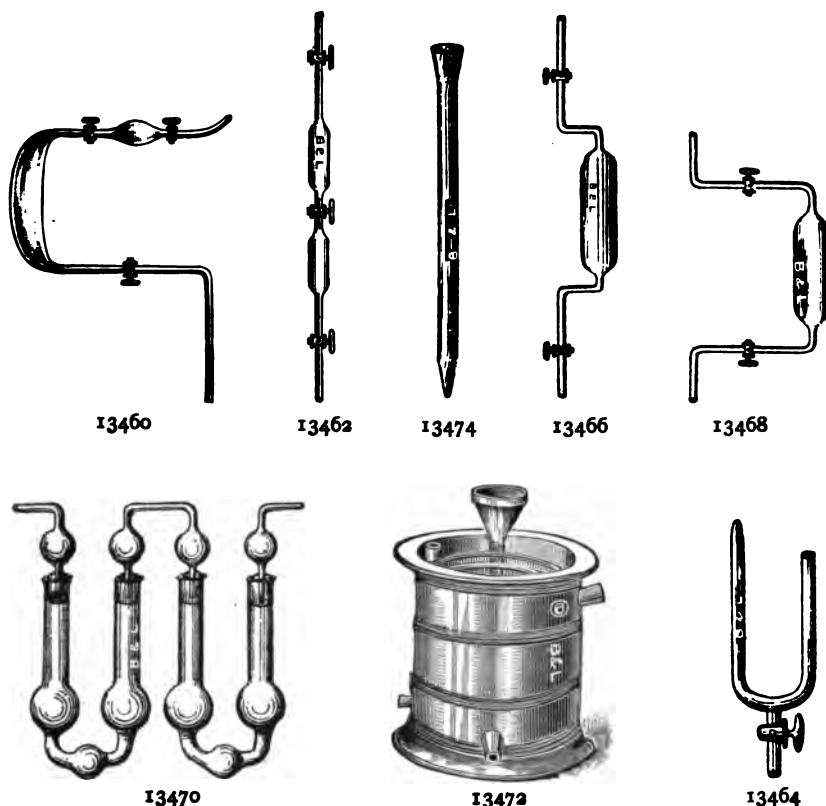
13440. Condensers, Liebig's. Of highly polished brass, with condensing tube of glass. Rubber stoppers included.

Length, mm.	300	375	500	600	675	750	1000
Each	2.50	3.00	3.25	3.75	4.00	4.50	5.50



13458
13456

13442. Condensers, Liebig's.	Of glass, with condensing tube in form of coil sealed in water jacket.					
Length, mm.	150	200	250	300	400	
Each	1.00	1.35	1.65	2.00	2.50	
13444. Condensers, Liebig's.	Of glass, with loose inner tube.					
Length, mm.	300	400	500	600	800	1000
Each	.65	.75	.90	1.15	1.60	2.00
13446. Condensers, Liebig's.	With rubber connections. (See page 141.)					
Length, mm.	300	400	500	600	800	1000
Each	.75	1.00	1.10	1.35	1.75	2.40
13448. Condensers, Liebig's.	With rubber stoppers.					
Length, mm.	300	400	500	600	800	1000
Each	1.75	2.20	2.60	2.90	3.65	4.35
Condenser Tubes for above Condensers. See No. 13474.						
13450. Condensers, Liebig's.	Of glass, with inner tube sealed to body.					
Length, mm.	300	400	500	600	800	1000
Each	.80	1.00	1.15	1.40	2.00	2.40



- 13452. Condenser, Soxhlet's.** Globe shape; of copper, tinned inside. (See illustration, page 142.) **Each \$2.70**
- 13454. Condenser, Soxhlet's.** Of glass throughout. **Each \$3.50**
- 13456. Condenser, Soxhlet's.** Of glass throughout; for inside and outside cooling. **Each \$4.50**
- 13458. Condensers, Spiral.** With glass spiral; on tripod. (See page 142.)
- | | | | |
|---------------|-------------|-------------|-------------|
| Capacity, cc. | 500 | 1000 | 2000 |
| Height, mm. | 250 | 250 | 300 |
| Diameter, mm. | 40 | 65 | 80 |
| Each | 3.10 | 4.00 | 4.50 |
- 13460. Condenser, Sulphurous Acid.** With three stop cocks and extra reservoir. **Each \$2.50**
- 13462. Condenser, Sulphurous Acid.** With two bulbs and three stop cocks in a line. **Each \$2.50**
- 13464. Condenser, Sulphurous Acid, Goebel's.** With one stop cock and with exit tubes. **Each \$1.00**
- 13466. Condenser, Sulphurous Acid, Liebig's.** With two stop cocks on horizontal tubes. **Each \$1.80**
- 13468. Condenser, Sulphurous Acid, Meyer's.** With two stop cocks on vertical tubes. **Each \$1.80**



13496



13494



13480

13470. **Condenser, Woehler's.** For ore determination; with hollow glass stoppers ground in. **Each \$2.50**

13472. **Condenser.** Of zinc; with heavy block-tin worm. (See page 143.)

Capacity of still, liters	2	4	8	12	20
Each	2.25	3.25	4.00	4.75	6.00

Condenser Supports. See SUPPORTS.

13474. **Condenser Tubes.** Of glass; for condensers. (See page 143.)

Length, mm.	300	400	500	600	800	1000
Each	.18	.20	.25	.30	.40	.60

Connecting Tubes. See TUBES.

13476. **Cork. First Quality.** For lining cabinets, etc. In sheets 100 x 300 mm. and 5 mm. thick. **Per ten sheets \$1.25**

13478. **Cork. Second Quality.** **Per ten sheets \$.60**

13480. **Corks. Regular Length; XX Quality.**

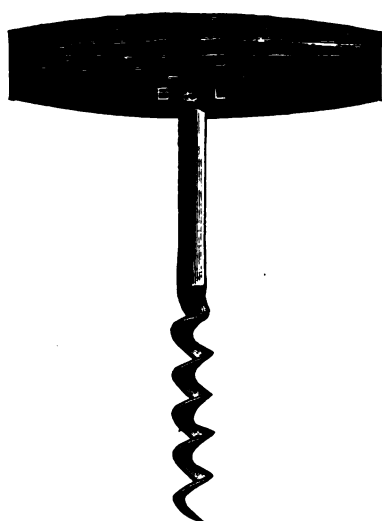
Numbers	00	0	1	2	3	4	5	6	7	8	9	10
Diam., top, mm.	8	9	10	11	12	14	16	18	20	22	24	26
Per hundred	.12	.12	.12	.12	.14	.16	.21	.23	.30	.40	.45	.58
Numbers	11	12	13	14	15	16	17	18	20	22	24	26
Diam., top, mm.	28	29	30	31	32	34	36	38	40	43	46	50
Per hundred	.60	.66	.75	.82	.90	1.20	1.35	1.44	1.80	2.25	2.85	3.40

13482. **Corks. Short Form. XX Quality.**

Numbers	00	0	1	2	3	4	5	6	7	8	9	10
Diam., top, mm.	8	9	10	11	12	14	16	18	20	22	24	26
Per hundred	.12	.12	.12	.12	.12	.14	.17	.25	.28	.32	.48	
Numbers	11	12	13	14	15	16	17	18	20	22	24	26
Diam., top, mm.	28	29	30	31	32	34	36	38	40	43	46	50
Per hundred	.50	.56	.60	.66	.75	.83	.93	1.00	1.35	1.70	2.05	2.50

13484. **Corks. Best Quality. Flat.** For wide mouth bottles, jars, etc.

Diam., top, mm.	50	53	56	59	62	65	68	71	75
Per ten	.12	.14	.15	.17	.19	.21	.23	.26	.30



13498



13490

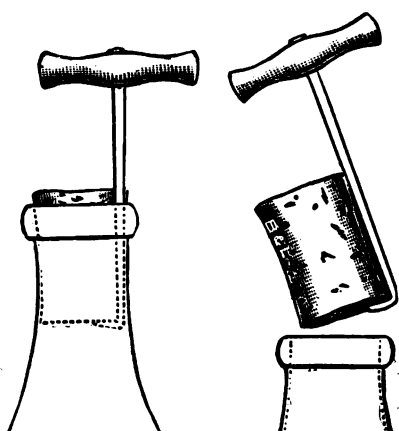


13500

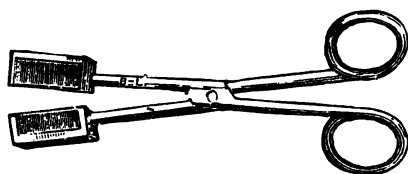


13488

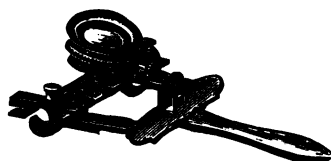
	Diam., top, mm.	81	87	93	100	112	125	138	150	
	Per ten	.35	.38	.45	.65	.90	.95	1.45	1.75	
13486.	Corks. Flat. XX Quality.	Double the above prices.								
13488.	Cork Borers. Of hard brass.									
	Number in set	3	6	9	12	15				
	Per set	.60	1.00	1.75	2.40	3.20				
13490.	Cork Borer Sharpener. A steel cone with knife.								Each	\$1.00
	Cork Files. See FILES.									
	Cork Knife. See KNIFE.									
13492.	Cork Plates. Size 100 x 300 mm.									
	Thickness, mm.	3	5	7						
	Each	.08	.12	.16						
13494.	Cork Press, Lever. Of cast iron.									
	Size	Small	Large							
	Each	.25	.70							
13496.	Cork Press, Rotary. This press rolls the corks into the desired tapering shape without splitting them. In two sizes for corks up to 18 and 32 mm. diameter respectively.									
	Size	Small	Large							
	Each	.50	.75							
13498.	Cork Screw.								Each	\$0.25
13500.	Cork Screw, Self-Pulling. With wire cutter. The most simple and practical cork screw made.								Each	\$0.60



13502



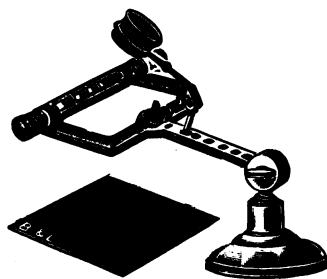
13504



13506



13512



13508

13502. Cork Extractor. For drawing corks from inside of bottles without breaking them. Each \$0.15

13504. Cork Tongs. For mattresses. Of brass, cork lined. Length, 175 mm. Each \$1.00

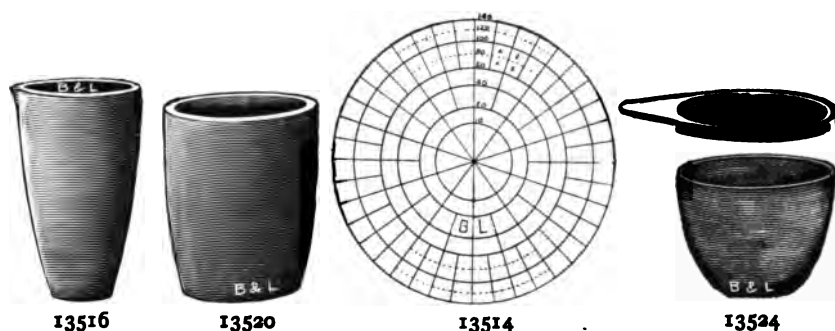
Counting Apparatus, Esmarch's. For counting colonies of bacteria in tube cultures. The tube is held in spring clamps underneath a plate having apertures of different sizes which provide limited areas for counting. A magnifier on jointed arm facilitates counting.

13506. Counting Apparatus, Esmarch's. With handle. Each \$4.00

13508. Counting Apparatus, Esmarch's. Mounted on stand and provided with white and black backgrounds. Each \$6.75

13510. Counting Apparatus, Rafter's. For counting organisms in water. Consists of a glass plate with rectangular cell, 50 mm. long, 20 mm. wide, 1 mm. deep, three covers for cell, disc micrometer ruled in millimeter squares, and a graduated 1 cc. pipette. The size of cell is such that when filled with 1 cc. of water, a square millimeter of surface represents a cubic millimeter of fluid. We recommend its use with 2/3 inch objective and 1 inch eyepiece. Each \$5.00

13512. Counting Apparatus, Wolffhuegel's. For counting colonies of bacteria in plate cultures. Consists of a wooden base, 270 mm. square, with drawer for accessories, and a ruled glass plate. The rulings are 10 mm. squares, with the diagonal rows ruled to 3 mm. squares. The ruled surface is 120 mm. square. Black and white backgrounds are provided. Each \$5.00



- 13514. Counting Plate, Jeffer's.** Ruled on glass. For use with the Wolff-huegel apparatus. The circular surface is divided into sectors which are subdivided into small spaces of equal area. (See Journal of Applied Microscopy and Laboratory Methods, Vol. 1, No. 3.) **Each \$2.00**

Coverglass and Slides. See MICROSCOPICAL COVERGLASS AND SLIDES.

Covers for Beakers, etc. See GLASS PLATES AND WATCH GLASSES.

Creamometers. See MILK TESTING APPARATUS.

- 13516. Crucibles.** These crucibles are guaranteed to be equal in form and quality to the Battersea crucibles.

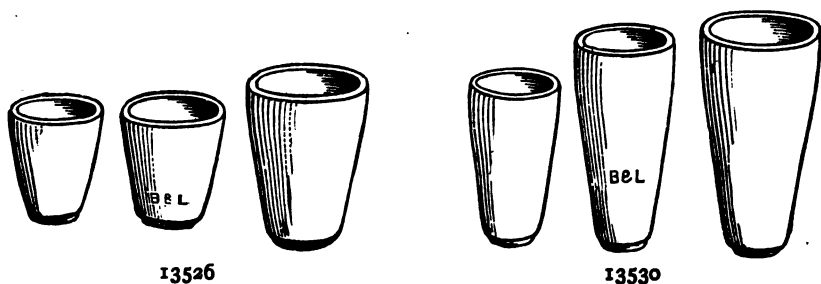
	A	B	C	D	E	F
Height, mm.	68	75	90	100	115	127
Diameter, mm.	43	47	56	60	74	75
Per hundred, Net	1.50	1.75	2.00	2.75	3.50	5.00
	G	H	J	K	L	M
Height, mm.	143	150	167	185	200	215
Diameter, mm.	93	96	112	120	133	145
Per hundred, Net	6.75	9.00	13.00	13.50	18.00	27.50

- 13520. Crucibles, Black Lead or Plumbago, Dixon's.** The very best quality. For prices of crucibles No. 14 and upwards multiply the number desired by \$0.06½, and result is the price of the crucible.

Numbers	0	00	000	0000	1	2	3
Height, mm.	50	60	65	75	95	110	135
Diameter, mm.	38	45	45	60	80	95	110
Each, Net	.15	.15	.15	.15	.25	.30	.35
Numbers	4	5	6	7	8	10	12
Height, mm.	145	150	165	175	185	200	200
Diameter, mm.	120	125	135	140	147	150	160
Each, Net	.40	.45	.50	.55	.60	.70	.72

- 13522. Crucible Covers, Black Lead or Plumbago, Dixon's.** For No. 13520.

Numbers	0	00	000	0000	1	2	3
Each, Net	.10	.10	.10	.10	.10	.10	.10
Numbers	4	5	6	7	8	10	12
Each, Net	.10	.10	.15	.15	.15	.15	.18



13524. Crucibles, Copper. Made of sheet copper spun into shape. With covers.

Capacity, cc.	50	100	250
Height, mm.	40	45	70
Diameter, mm.	50	60	85
Each	.60	.70	1.00

13526. Crucibles, Denver Fire Clay.

Capacity, grams	5	10	12	15	20	30	40
Height, mm.	65	75	80	90	95	120	140
Diameter, mm.	60	65	70	70	75	80	85
Per hundred, Net	2.50	3.00	3.00	3.00	4.00	6.00	8.00

13528. Crucible Covers, Denver Fire Clay. For No. 13526.

Per hundred, Net	2.25	2.25	2.25	2.25	3.50	4.00	5.00
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13530. Crucibles, Denver Fire Clay. French pattern.

Numbers	6	8	9
Height, mm.	100	125	145
Diameter, mm.	55	65	75
Per hundred, Net	3.50	7.00	8.00

13532. Crucible Covers, Denver Fire Clay. For No. 13530.

Numbers	6	8	9
Per hundred, Net	2.25	2.25	3.50

13534. Crucibles, Hessian Sand. Triangular Form.

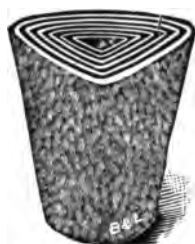
	Threes	Small 5s	Centimeters	Large 5s	Sixes
Number in nest	3	4	3	5	6
Height, mm.	90	100	110	120	145
Diameter, mm.	70	75	80	100	120
Per nest	.05	.06	.08	.10	.20

13536. Crucibles, Iron, Cast. With covers.

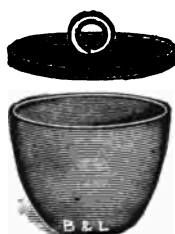
Capacity, cc.	250	500	1000	2000	4000
Each	1.00	1.50	2.00	3.00	4.50

13538. Crucibles, Iron. Spun. Made of sheet iron spun into shape. With covers.

Capacity, cc.	15	30	60	125	250
Height, mm.	30	40	50	60	75
Diameter, mm.	40	55	65	80	95
Each	.25	.30	.35	.40	.85



13534



13538



13540



13544, 13558



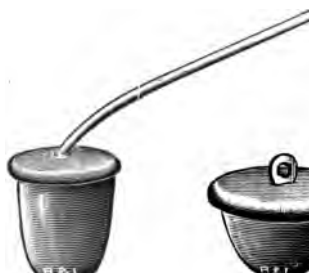
13546



13542



13548, 13556



13550



13552, 13554

13540. Crucibles, Iron, Skidmore's. Normal School Form. Made of spun iron and designed for individual use or general experimentation. Can be used as an open or closed crucible, or as a retort, and, being of thin metal, is easily brought to a red heat over the flame of an ordinary burner.

Capacity, cc.	45	180
Each	1.00	2.00

13542. Crucibles, Pure Nickel. With covers. These are very practical for use in alkali solutions where there is danger of ruining a platinum crucible.

Capacity, cc.	20	30	75	100	250	450
Diameter, mm.	35	40	50	60	80	100
Each	.60	.70	.90	1.00	1.50	2.00

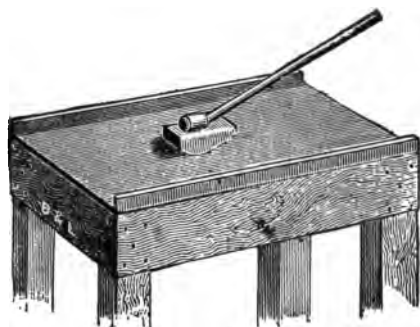
Crucibles, Platinum. See PLATINUM WARE.

13544. Crucibles, Imperial Berlin Porcelain. Glazed inside and outside. With covers.

Numbers	8	7	6	5	4	3	2	1
Capacity, cc.	8	15	25	30	60	110	130	200
Diameter, mm.	30	35	40	45	55	65	70	80
Each	.10	.10	.15	.15	.24	.30	.35	.50

13546. Crucible, Imperial Berlin Porcelain, Caldwell's. Conical shape; with flange to hold the loose perforated bottom. **Each \$0.40**

13548. Crucible, Imperial Berlin Porcelain, Gooch's. With cover and perforated bottom. Capacity, 25 cc. **Each \$0.45**



13564

13550. Crucibles, Imperial Berlin Porcelain, Rose's. With perforated cover and tube. (See illustration, page 149.)

Capacity, cc.	15	30	60
Each	.50	.60	.75

13552. Crucibles, Imperial Berlin Porcelain. Royal Berlin form; glazed inside and outside. With cover. (See illustration, page 149.)

Numbers	000	00	0	1	2	3	4	5
Capacity, cc.	5	13	14	25	50	80	140	280
Diameter, mm.	25	33	38	46	55	68	80	87
Each	.12	.12	.18	.24	.35	.40	.50	.55

13554. Crucibles, Royal Berlin Porcelain. Glazed inside and outside. With covers.

Numbers	00000	0000	000	00	0
Capacity, cc.	$\frac{1}{2}$	2	5	13	14
Diameter, mm.	14	18	25	33	38
Each	.05	.06	.09	.15	.25
Numbers	1	2	3	4	5
Capacity, cc.	25	50	80	140	280
Diameter, mm.	46	55	68	80	87
Each	.25	.35	.45	.50	.60

13556. Crucible, Royal Berlin Porcelain, Gooch's. With cover and perforated bottom. Capacity, 25 cc. Each \$0.50

13558. Crucibles, Royal Meissen Porcelain. Glazed inside and outside. With covers. (See illustration, page 149.)

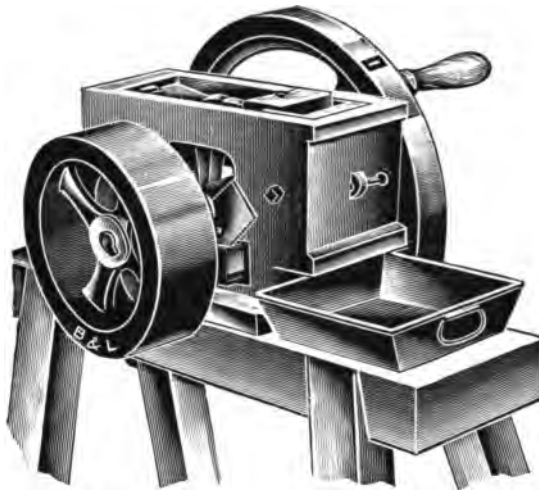
Numbers	1	2	3	4	5	6
Capacity, cc.	200	130	110	60	30	25
Diameter, mm.	80	70	65	55	45	40
Each	.45	.35	.30	.25	.18	.18
Numbers	7	8	9	10	11	
Capacity, cc.	15	8	4	2	1	
Diameter, mm.	35	30	23	18	14	
Each	.12	.12	.12	.12	.12	

13560. Crucible, Royal Meissen Porcelain, Caldwell's. With flange to hold the loose, perforated bottom. Each \$0.60

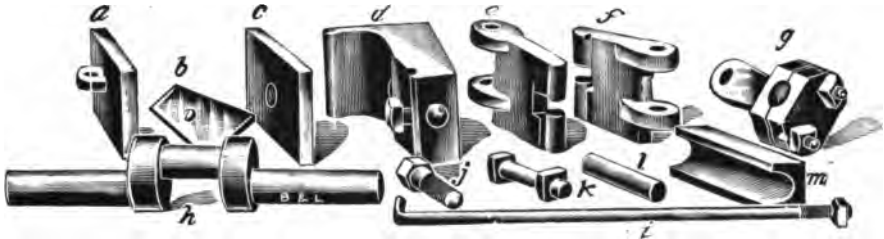
13562. Crucibles, Silver. Any size made to order.

Price quoted on application.

Crucible Tongs. See TONGS.



13568



13570

13564. Crusher. For quickly reducing ores to a fine powder. Plate and rubber of chilled iron. (See illustration, page 150.)

Size of plate, mm. 450x600 600x900

Each	9.00	15.00
------	------	-------

Crusher, Bosworth's. For laboratory use. The jaws are 75 mm. wide and open 50 mm., taking pieces of ore as large as 40 x 40 x 65 mm. It crushes 25 kilos in one hour to maximum size of 1½ mm. (1/16 inch.)

13566. Crusher, Hand. Each, Net \$30.00

13568. Crusher, Hand. With pulley attachment. Each, Net \$32.00

13570. Crusher. Separate parts for Bosworth's.

a Stationary chilled jaw plate.	Each, Net	\$0.50
b Steel cheek plate and bolts.	Per pair, Net	\$0.75
c Wrought iron movable jaw plate.	Each, Net	\$0.50
d Movable jaw	Each, Net	\$2.00
e Toggle plate.	Each, Net	\$0.50
f Duplicate of "E."	Each, Net	\$0.50
g Pitman.	Each, Net	\$1.50
h Steel crank shaft	Each, Net	\$3.00
i Spring rod.	Each, Net	\$0.50
j Eye bolt, for attaching plate to jaw.	Each, Net	\$0.35
k Toggle frame bolt.	Each, Net	\$0.10



13572, 13574

l Steel toggle pin.	Each, Net	\$0.25
m Movable jaw shoe.	Each, Net	\$0.50
n Pully wheel.	Each, Net	\$4.00
o Hand wheel.	Each, Net	\$3.00

- 13572. Crusher, Ore.** For reducing ore to an impalpable powder which greatly facilitates analysis. Any desired pressure may be obtained. The mortar, as well as the pestle, revolves and by means of a scraper the ore is kept in the center. The combined rolling and sliding motion reduces the hardest ore very rapidly. This grinder may be operated by any convenient power of which not to exceed one-eighth horse power is required. The mortar is about 110 mm. diameter. Without mortar. **Each, Net \$50.00**
- 13574. Crusher, Ore.** With agate mortar and pestle. **Each, Net \$60.00**
- 13576. Crusher, Weatherhead's.** Crushes and pulverizes coarse material from clay to pig iron in remarkably short time, discharging them as soon as pulverized. The cover may be used as a hand mortar, the ends of the handle serving as a pestle. **Each, Net \$25.00**



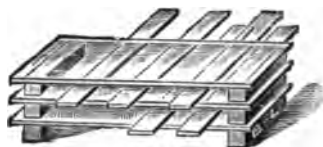
13576



13586



13582



13584



13588



13594

13578. Culture Plates. Of fine white glass. Size, 130 x 85 mm. Edges not ground. **Per ten \$0.40**

13580. Culture Plates. Same as No. 13578 but with edges ground. **Per ten \$0.50**

13582. Culture Plate Bench. For supporting culture plates. Of one piece of glass with ends bent. Size, 140 x 50 x 35 mm. **Each \$0.20**

13584. Culture Plate Bench. For supporting culture plates. A glass plate with ground edges cemented to glass cross pieces. Size, 130 x 50 x 10 mm. **Each \$0.25**

13586. Culture Plate Box. For holding plates during sterilization and storing them until used. Made of sheet iron with deep cover. Dimensions, 140 x 50 mm. and 180 mm. high. **Each \$1.00**

13588. Culture Slide. For drop cultures. Polished plate glass slip, 25 x 75 mm. with cavity 16 mm. diameter. **Each \$0.30**

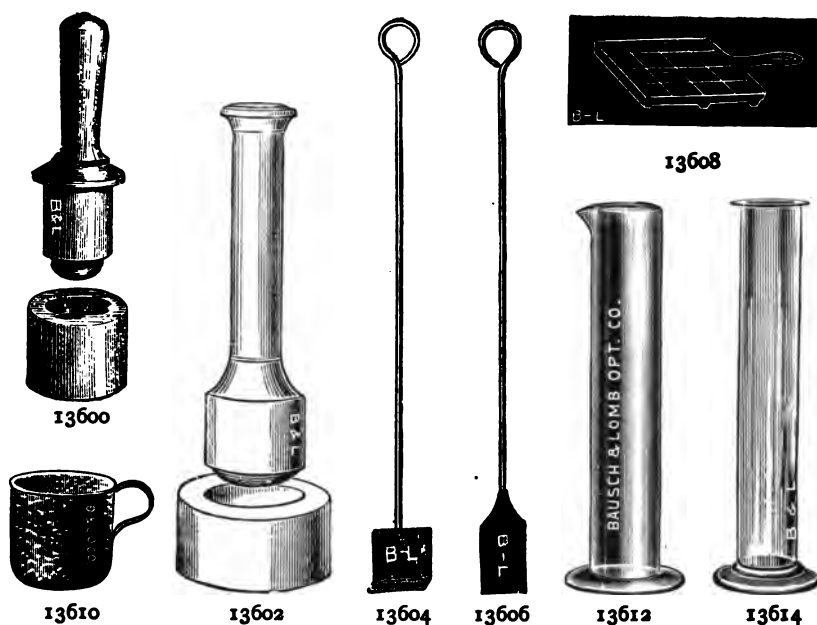
13590. Culture Slide. A glass slip, 25 x 75 mm. diameter, with concave polished center 12 mm. diameter. **Each \$0.05**

13592. Culture Slide. With two concavities each 12 mm. diameter. **Each \$0.10**

13594. Culture Slide. For moulds. Consists of a glass ring with ground-in side tubes, attached to a 25 x 75 mm. slide without the use of cement, which makes it suitable for the most delicate cultivations. Diameter of cell, 17 mm.; depth, 12 mm. Length of tubes, 60 mm., much longer than shown in illustration. **Each \$1.00**

13596. Cupels, Hoskin's. Made of the best bone ash; guaranteed.

Diameter, mm.	30	38	45
Per hundred, Net	1.75	2.25	3.00



13598. Cupels, Torry and Eaton's.

Diameter, mm.	25	28	32	35
To absorb (approx.) grams	10	15	20	25
Per hundred, Net	2.00	2.50	3.00	3.50
Diameter, mm.	38	42	45	50
To absorb (approx.) grams	30	45	50	75
Per hundred, Net	4.00	4.50	5.00	6.00

13600. Cupel Moulds. Of brass.

Diameter, mm.	30	38
Each	2.30	3.00

13602. Cupel Moulds. Of iron. California pattern.

Diameter, mm.	30	38
Each	1.75	2.00

13604. Cupel Rake. Of iron, 600 mm. long **Each \$0.45**

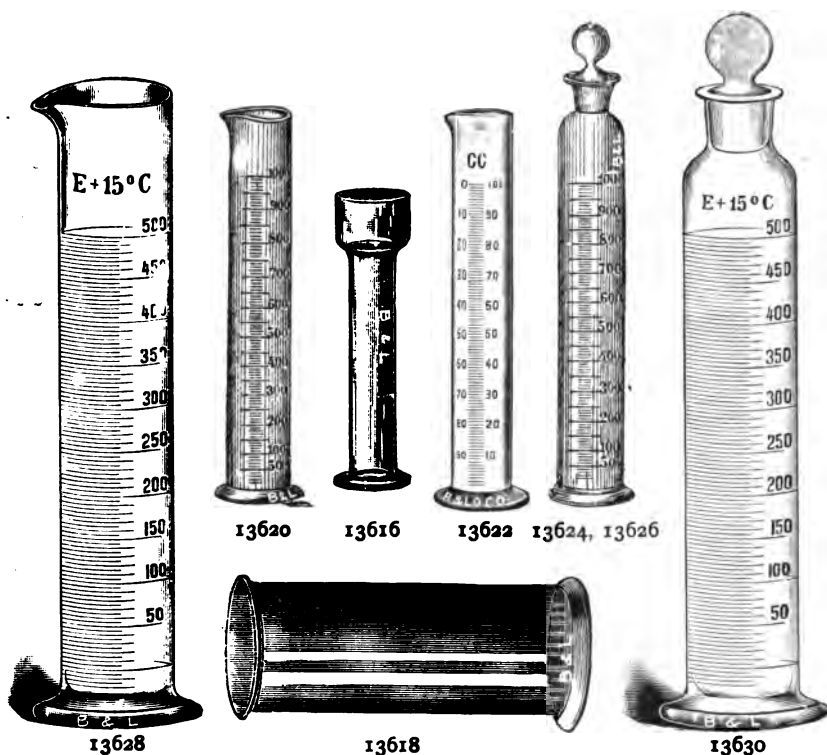
13606. Cupel Shovel. Of iron, 600 mm. long **Each \$0.45**

Cupel Tongs. See TONGS.

13608. Cupel Tray. Of cast iron, with sixteen shallow, square depressions. **Each \$1.25**

13610. Cups, Miner's. Agate nickel steel, seamless.

Capacity, approx. cc.	1000	1500
Height, mm.	130	150
Diameter, mm.	110	130
Each	.55	.70



13612. Cylinders. Of heavy glass; with pour-out.

Height, mm.	100	125	125	150	150	175	200	210	250
Diameter, mm.	25	25	40	25	40	30	30	40	40
Each	.15	.16	.18	.16	.22	.24	.25	.26	.30
Height, mm.	260	300	300	315	350	365	375	450	500
Diameter, mm.	45	40	50	65	50	65	50	50	50
Each	.35	.35	.45	.55	.50	.60	.50	.65	.75

13614. Cylinders. Of heavy glass; with rim around top.

Height, mm.	100	125	125	150	150	175	200	210	250
Diameter, mm.	25	25	40	25	40	30	30	40	40
Each	.15	.16	.18	.16	.22	.24	.25	.26	.30
Height, mm.	260	300	300	315	350	365	375	450	500
Diameter, mm.	45	40	50	65	50	65	50	50	50
Each	.35	.35	.45	.55	.50	.60	.50	.65	.75

13616. Cylinders. Of heavy glass, with enlarged top. Especially adapted for use with hydrometers.

Height, mm.	350	450	300	400
Diameter, top, mm.	50	60	75	75
Diameter, bottom, mm.	40	45	50	65
Each	.40	1.00	.50	.75

13618. Cylinders. With ground top for glass plates.

Height, mm.	200	300	300	400
Diameter, mm.	100	80	100	80
Each	.70	1.00	1.25	1.20

Cylinders, Graduated, for General Laboratory Work. These cylinders are of superior quality being carefully made under our own supervision. They are adjusted by accurate measurement with water at 15° C. and are graduated with *semi-circular* markings for quick reading.

13620. Cylinders. With foot, lip and pour-out. (See illustration, page 155.)

Capacity, cc.	5	10	15	25	50	75	100	150
Each	.22	.25	.28	.30	.35	.40	.50	.60
Capacity, cc.	200	250	300	500	1000	2000	3000	
Each	.70	.80	.90	1.00	1.50	3.00	3.50	

13622. Cylinders. With double graduations, reading up and down.

Capacity, cc.	5	10	25	50	100	250	500	1000	2000
Each	.25	.30	.35	.40	.60	.90	1.20	1.80	3.40

13624. Cylinders, Mixing. With ground glass stopper.

Capacity, cc.	10	25	50	75	100	150	
Each	.40	.50	.55	.65	.75	.80	
Capacity, cc.	200	250	500	1000	2000		
Each	1.00	1.15	1.30	2.25	3.75		

13626. Cylinders, Mixing. With double graduations, reading up and down, and ground glass stopper.

Capacity, cc.	10	25	50	100	250	500	1000	2000
Each	.50	.60	.70	.80	1.20	1.65	2.45	4.00

Cylinders for Laboratory Work of Precision. These cylinders have *circular (all-round) markings* for very accurate reading, and are graduated by weight on delicate balance. They are standardized to meet the requirements of the German Imperial Commission. A certificate of accuracy is supplied with each instrument. (See illustrations No. 13628 and 13630, page 155.)

13628. Cylinders. With foot, lip, and pour-out; adjusted for inflow.

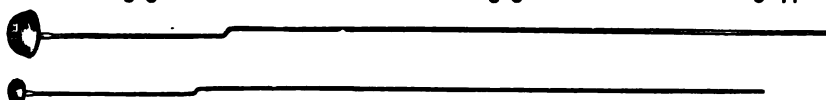
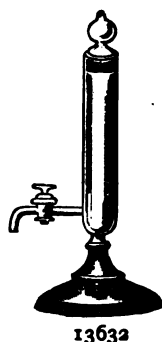
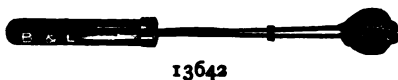
Capacity, cc.	5	10	25	50	100	
Graduated, cc.	1/20	1/10	1/5	1/5	1/1	
Each	.45	.50	.60	.75	1.00	
Capacity, cc.	200	250	500	1000	2000	3000
Graduated, cc.	2/1	5/1	5/1	10/1	20/1	50/1
Each	1.25	1.50	2.00	3.00	5.00	6.00

13629. Cylinders. With double graduations, reading up and down.

Capacity, cc.	5	10	25	50	100	
Graduated, cc.	1/20	1/10	1/5	1/5	1/1	
Each	.55	.60	.65	.80	1.20	
Capacity, cc.	200	250	500	1000	2000	
Graduated, cc.	3/1	5/1	5/1	10/1	20/1	
Each	1.50	1.80	2.40	3.60	6.00	

13630. Cylinders, Mixing. With ground glass stopper; adjusted for inflow.

Capacity, cc.	5	10	25	50	100	
Graduated, cc.	1/20	1/10	1/5	1/5	1/1	
Each	.75	.80	1.00	1.10	1.50	
Capacity, cc.	200	250	500	1000	2000	
Graduated, cc.	2/1	5/1	5/1	10/1	20/1	
Each	2.00	2.30	2.60	4.50	7.50	



13638, 13640

13631. Cylinders, Mixing. With double graduations, reading up and down.

Capacity, cc.	5	10	25	50	100
Graduated, cc.	1/20	1/10	1/5	1/5	1/1
Each	.90	1.00	1.20	1.35	1.80
Capacity, cc.	200	250	500	1000	
Graduated, cc.	2/1	5/1	5/1	10/1	
Each	2.40	2.80	3.20	5.40	

We will also supply these cylinders (on import orders only and at a higher price) tested by the German Imperial Commission whose endorsement of accuracy is stamped upon each instrument. Prices on application.

13632. Cylinders, Reagent. With glass stop cock and stopper; on wooden base. Size, 180 x 25 mm. Each \$2.25

Cylinders for Nessler's Ammonia Test. See COLORIMETRIC DETERMINATION APPARATUS; NESSLER TUBES.

Cylinder, Steel. See GAS HOLDERS.

Decanting Jars. See JARS.

13634. Deflagration Globes. Of well annealed glass; with ring neck.

Diameter, mm.	225	300
Each	1.20	1.60

13636. Deflagration Globes. With cup and stand.

Diameter, mm.	225	300
Each	1.90	2.35

13638. Deflagration Spoons. Of brass; for burning phosphorous, sulphur, etc., in oxygen.

Diameter of bowl, mm.	12	25
Each	.15	.20

13640. Deflagration Spoons. Of iron.

Diameter of bowl, mm.	12	25
Each	.10	.15



13646



13648

13642. Deflagration Spoon. For decomposition of water by sodium. With brass gauze bowl and wooden handle. (See page 157.)

Each \$0.45

13644. Dehydrating Apparatus, Schultz'. Specially adapted for hardening delicate tissues. The object is placed in a glass tube whose lower end is covered by an animal membrane. This tube hangs inside another similar tube, also diaphragmed, which is suspended from the neck of a heavy glass bottle. The bottle has glass cap ground on air tight. Upon filling the tubes with water and the bottle with alcohol, a slow osmotic action takes place, hardening the object very gradually. Delicate tissues are not so apt to shrivel and collapse in this apparatus. For less sensitive objects, one of the tubes may be removed when hardening proceeds much more rapidly. Diameter of inner tube, 10 mm.; capacity of vessel, 100 cc. (See illustration, page 157.)

Each \$1.25

13646. Dehydrating Apparatus, Thomas'. This apparatus consists of a heavy glass jar 190 x 190 mm., having a glass cover fitting air tight. Supported in the jar are glass cylinders of various diameters and about 150 mm. long, each cylinder having in the bottom a replaceable chamois skin diaphragm fastened by a nicked spring. The cylinders are supported at any desired height by rubber rings resting on the vulcanite plate instead of springs as shown in illustration. The dehydrating fluid is placed in the jar and the cylinders partly filled with a weaker solution in which the tissue to be hardened is placed. By osmosis the dehydrating fluid gradually acts on the tissue which does not shrink as when hardened in the usual manner.

Each \$7.50

13648. Demijohns. Of glass, with rattan cover.

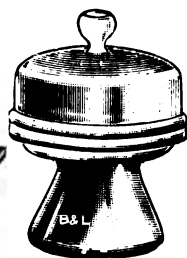
Capacity, liters	2	4	8	12	20
Each	.40	.50	.75	1.00	1.50



13662



13650



13654



13658



13660

13650. Desiccators. Consist of a porcelain acid dish covered by a bell glass ground air tight to a glass plate.

Diameter of acid dish, mm.	115	130	155
Diameter of bell glass, mm.	150	200	250
Size of plate, mm. square	200	250	300
Each	2.50	3.50	4.50

13652. Desiccator. With manometer, glass stop cock and ground glass plate. Height, 200 mm.; diameter, 150 mm. **Each \$6.75**

13654. Desiccator, Atwater's. With triangle. **Each \$1.80**

13656. Desiccators, Fresenius'. With cover ground on air tight. (See page 160.)

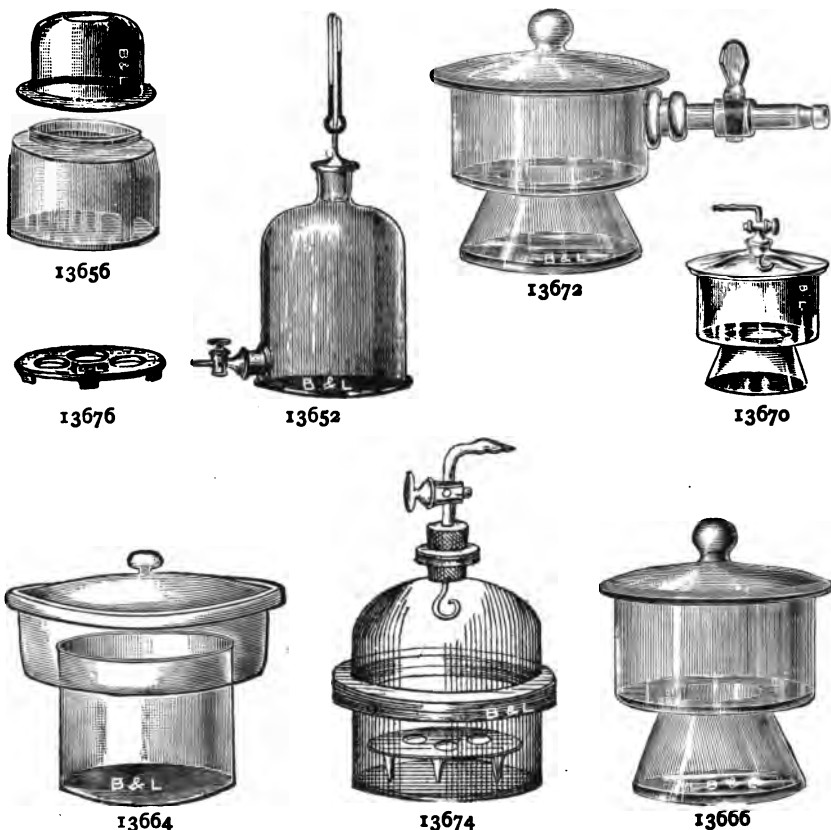
Diameter, mm.	80	100	120
Each	.90	1.20	1.50

13658. Desiccator, Fruhling and Schultz'. With porcelain plate. Height, 175 mm.; diameter, 200 mm. **Each \$6.50**

13660. Desiccator, Fruhling and Schultz'. With ground in stop cock. **Each \$9.00**

13662. Desiccators, Hempel's. The absorbent is placed in the cover where it is most effective as the water vapor rises to the top of the apparatus. Thus the entire lower part is available for drying purposes. Provided with glass stop cock and suspension hook on ground glass stopper.

Diameter, mm.	100	125	150
Each	3.50	3.75	4.50



13664. Desiccators, Reinhardt's. The enlarged top affords space for the absorbent, leaving the entire lower part available for drying purposes. The cover is ground into recess air tight, and cannot slip off when the desiccator is carried about.

Height of cylinder, mm.	80	150
Diameter of cylinder, mm.	80	150
Each	3.00	5.00

13666. Desiccators, Scheibler's. With cover ground on air-tight.

Diameter, mm.	100	120	150
Each	1.20	1.40	1.75

13668. Desiccators, Scheibler's. With porcelain plate for crucibles.

Diameter, mm.	100	120	150
Each	2.00	2.50	3.25

13670. Desiccators, Scheibler's. With air-tight cover stop cock and hook.

Diameter, mm.	100	120	150
Each	2.70	2.80	3.35

13672. Desiccators, Scheibler's. With side tube and stop cock.

Diameter, mm.	100	120	150
Each	2.70	2.80	3.35

13674. Desiccators, Vacuum. Very heavy glass; with rubber stopper, stop cock and porcelain plate.

Diameter, mm.	100	140	160
Each	4.00	5.25	6.75



13702



13694



13696, 13704



13684



13685



13678



13687

13675. **Desiccator Support.** Of pure nickel; 150 mm. diameter; holding 13 crucibles, 15 to 25 cc. Each \$0.75

13676. **Desiccator Plates.** Of porcelain.

Diameter, mm.	95	110	145
Each	.75	.90	1.25

13678. **Dialyzers.** Consist of an open top bell glass suspended in a glass jar. The large end of the bell glass is covered with parchment.

Capacity, liters	2	4	6	8	12
Each	1.25	1.50	2.50	3.50	5.00

13680. **Dialyzers, Graham's.** Consist of two glass parts; the inner part to which parchment paper is fastened, is supported by its rim upon the edge of the outer vessel. Supplied without parchment paper. (See illustration, page 162.)

Diameter, mm.	100	150	200	250
Each	1.30	1.80	2.25	3.00

13682. **Dialyzer Tubing.** Made of heavy parchment.

Diameter, mm.	45	55	70	90	110
Per meter	.08	.10	.14	.18	.20

Dialyzers, Parchment Paper for. See PAPER.

13684. **Diamond.** For writing on glass. A fine diamond mounted in a metal handle. Each \$2.50

Diamond for cutting glass. See GLASS CUTTER.

Diamond Ink. See INK.

Diamond Mortars. See MORTARS.

13685. **Diaphanoscope, Vogel's.** For determining the fatness of barley and the dissolution of malt. Each \$9.00

Dies. See FIGURES AND LETTERS.

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



13686. Diffusion Shells, Schleicher & Schull's. No. 579.

Size, mm.	100x16	100x35-40
Each	.15	.34

Digestion Apparatus. See KJELDAHL APPARATUS.

13687. Dippers, Agateware. With wooden handle. (See page 161.)

Height, mm.	75	85	90	95
Diameter, mm.	110	135	150	175
Each	.60	.70	.75	.90

Dishes, Acid. See ACID BASINS.

13688. Dishes, Crystallization. High Form. Of clear white glass; with flat bottom and polished edges.

Height, mm.	40	50	60	80	100	120
Diameter, mm.	40	50	60	80	100	120
Each	.14	.15	.16	.20	.25	.30

13690. Dishes, Crystallization. Low Form. Of clear white glass; with flat bottom and polished edges.

Diameter, mm.	30	40	50	60	70	80	90
Each	.10	.10	.11	.12	.14	.16	.18
Diameter, mm.	100	110	130	150	170	190	210
Each	.20	.22	.30	.40	.45	.50	.60
Diameter, mm.	240	270	300	350	400	450	
Each	.80	1.20	2.00	3.00	4.50	5.40	

13692. Dish, Culture. For moulds. Consists of a shallow dish with cover ground on and a funnel ground in the cover. Diameter of dish, 100 mm. Each \$0.90

Dishes, Culture. See MOIST CHAMBERS.

13694. Dishes, Evaporating, Agateware. Seamless; flint enameled; acid proof. (See illustration, page 161.)

Capacity, liters	½	1	2	4	8	12
Diameter, mm.	125	200	225	300	400	450
Each	.90	1.15	1.50	2.10	3.00	4.20

13696. Dishes, Evaporating. Aluminum. With lip. (See page 161.)

Diameter, mm.	40	50	60	70	80	100	120	150
Each	.10	.11	.12	.13	.14	.16	.25	.35

13698. Dishes, Evaporating. Baloc Glass. With lip. (See page 162.)

Diameter, mm.	50	60	70	80	90	100	110	120
Each	.14	.16	.18	.20	.22	.25	.30	.35
Diameter, mm.	130	140	150	160	170	180	200	
Each	.40	.42	.45	.50	.60	.65	.75	

13700. Dishes, Evaporating. Jena Glass. May be used in place of porcelain evaporating dishes and have the advantage of permitting one to look through them.

Diameter, mm.	60	70	80	90	100	110
Each	.22	.25	.30	.35	.45	.55
Diameter, mm.	125	135	150	200	250	300
Each	.70	.80	.95	1.25	1.60	2.25

13702. Dishes, Evaporating. Iron. Porcelain lined; with two handles. (See illustration, page 161.)

Diameter, mm.	80	100	120	150	180
Each	.30	.40	.50	.80	1.00
Diameter, mm.	200	240	300	360	400
Each	1.20	1.50	2.25	3.00	4.20

13704. Dishes, Evaporating. Pure Nickel. With lip. (See page 161.)

Diameter, mm.	40	50	60	70	80	90	100	120	150
Each	.20	.50	.60	.75	1.00	1.15	1.25	1.75	2.25

Dishes, Evaporating. See KETTLES.

13706. Dishes, Evaporating, Imperial Berlin Porcelain. Shallow form, with flat bottom; for rapid evaporation and crystallization. (See page 162.)

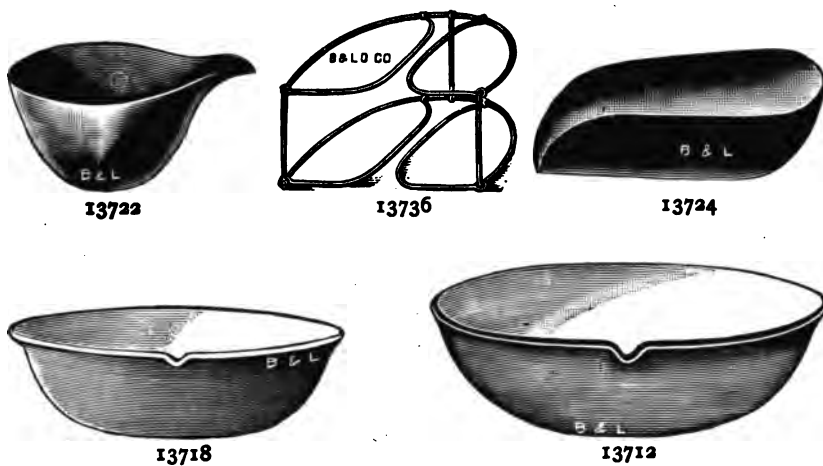
Numbers	1	2	3	4	5	6	7	8	9
Diameter, mm.	70	80	95	105	120	140	160	180	200
Each	.15	.22	.25	.30	.35	.45	.50	.65	.85

13708. Dishes, Evaporating, Imperial Berlin Porcelain. Glazed inside; with wooden handle. (See illustration, page 162.)

Numbers,	1	2	3	4	5
Capacity, cc.	30	50	120	250	500
Diameter, mm.	60	70	100	125	170
Each	.25	.35	.40	.50	.65

13710. Dishes, Evaporating, Imperial Berlin Porcelain. German form. Glazed inside; with lip. Sizes above No. 7 have heavy glazed rim. (See illustration, page 162.)

Numbers	00	0	1	2	3	3a	4	5
Capacity, cc.	100	150	250	400	600	800	1000	1500
Diameter, mm.	95	115	140	170	195	215	235	260
Each	.16	.22	.25	.30	.45	.50	.65	.85



Numbers	6	7	8	9	10	11	12
Capacity, cc.	2000	3000	3500	4500	5500	6000	7500
Diameter, mm.	285	300	315	340	385	405	450
Each	1.20	1.50	1.75	2.10	2.75	3.75	5.00

13712. Dishes, Evaporating, Imperial Berlin Porcelain. Royal Berlin form.

Numbers	000	00	0	1	2	3
Capacity, cc.	25	50	80	100	140	175
Diameter, mm.	50	70	80	85	90	100
Each	.12	.14	.16	.18	.22	.25

Numbers	4	5	6	7	8	8a
Capacity, cc.	210	300	385	765	1285	1430
Diameter, mm.	110	120	145	185	215	230
Each	.35	.45	.65	.80	1.10	1.40

Numbers	9	10	11	12	13	
Capacity, cc.	2200	3250	5700	10000	16500	
Diameter, mm.	265	305	360	400	460	
Each	1.70	2.50	3.75	7.00	10.00	

13714. Dishes, Evaporating, Royal Berlin Porcelain. With lip. Sizes 00 to 5 glazed inside and outside.

Numbers	000	00	0	1	2	3
Capacity, cc.	25	50	80	100	140	175
Diameter, mm.	50	70	80	85	90	100
Each	.12	.18	.20	.28	.32	.35

Numbers	4	5	6	6a	7	8
Capacity, cc.	210	300	385	535	765	1285
Diameter, mm.	110	120	145	162	185	215
Each	.45	.52	.70	.80	.85	1.10

Numbers	8a	9	10	11	12	13
Capacity, cc.	1430	2200	3250	5700	10000	16500
Diameter, mm.	230	265	305	360	400	460
Each	1.40	1.70	2.75	3.40	8.00	13.60



13728, 13730



13732, 13734



13726



13738

13716. Dishes, Evaporating, Royal Berlin Porcelain. With lip. Shallow form. (See illustration, page 162.)

Numbers	1	2	3	4	5	6	7
Capacity, cc.	45	60	95	160	200	350	550
Diameter, mm.	70	80	95	105	130	140	160
Each	.20	.30	.35	.45	.55	.70	.85

13718. Dishes, Evaporating, Royal Meissen Porcelain. With lip and flat bottom. (See illustration, page 164.)

Numbers	000	00	0	1	2	3	4
Capacity, cc.	8700	6200	4750	3750	2250	1700	1100
Diameter, mm.	400	360	340	300	270	250	220
Each	6.00	5.25	3.50	2.50	1.85	1.55	1.30
Numbers	5	6	7	8	9	10	11
Capacity, cc.	870	525	280	190	120	50	20
Diameter, mm.	190	165	135	123	110	83	65
Each	1.00	.70	.50	.35	.30	.20	.15

Dishes, Evaporating. See KETTLES.

13720. Dishes, Evaporating, Silver. Any size made to order. Price quoted on application.

13722. Dishes, German Silver. Large; with lip and counterpoise. For weighing sugar samples. (See illustration, page 164.) **Each \$3.00**

13724. Dishes, German Silver. Scoop form. (See page 164.) **Each \$3.00**

13726. Dishes, Lead. Used as container in etching glass with hydrofluoric acid.

Diameter, mm.	50	65	75	100	125	150
Each	.08	.12	.16	.25	.35	.45

13728. Dish, Pasteur. Made of best white German glass. Has thinner walls and is shallower than the Petri dish, permitting the use of higher power objectives in the examination of colonies. Diameter, 100 mm.; depth, 5 mm. **Each \$0.25**

13730. Dish, Pasteur. With top and bottom polished; extra fine. **Each \$0.50**

13732. Dishes, Petri. Made of best white German glass.

Diameter, mm.	50	80	100	120	150
Depth, mm.	10	10	10	15	15
Each	.15	.20	.25	.40	.60



13742



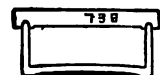
13740



13746



13744



13734. Dish, Petri. With top and bottom polished; extra fine. Diameter, 100 mm.; depth, 10 mm. Each \$0.50

13736. Petri Dish Holders. Hold a number of 100 mm. dishes, one above the other so that they occupy small space. Made of nickeled spring wire, with brazed joints. (See illustration, page 164.)

Number of dishes	3	6
Each	.40	.60

Dishes, Platinum. See PLATINUM WARE.

13738. Dishes, Preparation. Of clear white glass; with cover ground on air-tight. May be sealed for permanent preservation or used without sealing for ordinary purposes. (See illustration, page 165.)

Diameter, mm.	40	70	100
Each	.20	.30	.35

13740. Dishes, Preparation. Of clear white glass; with loosely fitting cover. While not perfectly air-tight the deep rim of the cover renders the dish sufficiently so for most purposes.

Diameter, mm.	50	60	70	90	100
Each	.20	.28	.35	.50	.60

13742. Dishes, Preparation. Of clear white glass; with broad flange at top and perfectly ground, air-tight cover with knob.

Height, mm.	30	35	40	45
Diameter, mm.	50	.65	80	100
Each	.45	.50	.55	.65

Dishes, Staining. See STAINING DISHES.

13744. Dishes, Stender. American make.

Height, mm.	24	30	35	90
Diameter, mm.	36	50	60	60
Each	.09	.10	.12	.14



13748



13749



13753



13750



13754



13752

13746. Dishes, Stender. German make. These dishes are made from best white glass, with accurately ground, air-tight cover.

Height, mm.	25	30	35	40	50	60	70	90
Diameter, mm.	40	50	60	80	100	120	140	50
Each	.24	.24	.30	.40	.50	.85	1.00	.50

13748. Displacement Apparatus. Of clear white glass. Consists of a separatory funnel, having ground glass stopper and stop cock, ground into receiver.

Capacity, cc.	250	500	1000	2000
Each	2.75	3.00	3.50	4.00

DISSECTING INSTRUMENTS

13749. Blowpipe. Of nickeled metal, 120 mm. long. **Each \$0.15**

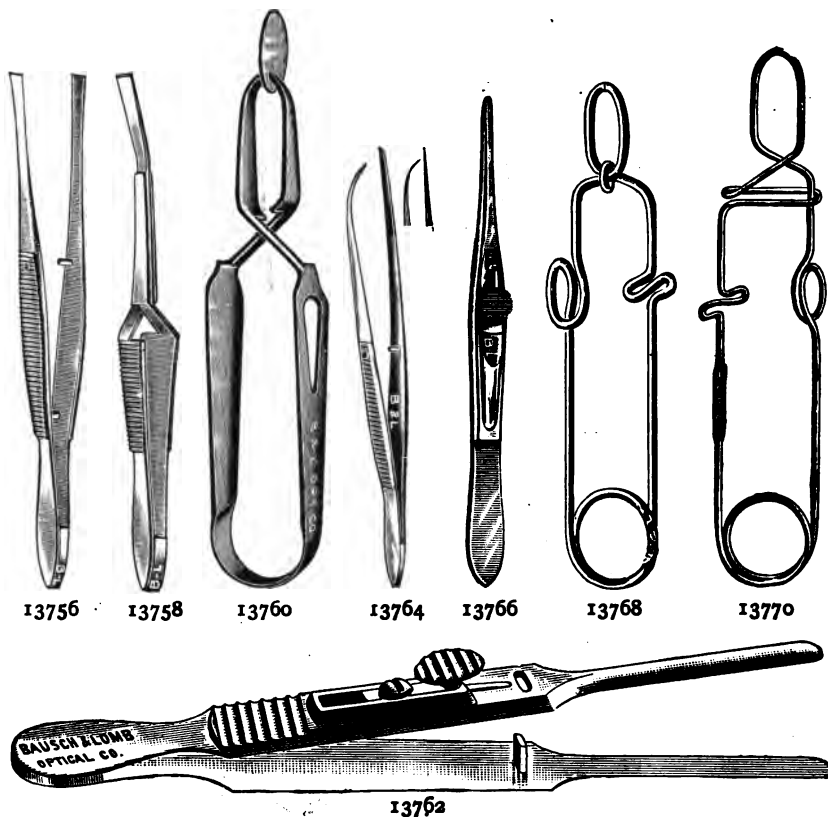
13750. Forceps, Artery (Serrafines). Small, self-closing, steel forceps with corrugated points and handles; nickeled. Length, 55 mm. **Each \$0.40**

13752. Forceps, Bone-Cutting. Strong, accurately made blades; pinless lock joint holding the blades together firmly during use, and also permitting their separation for cleaning. The spring is also removable.

Length, mm.	200	225
Each	2.50	2.75

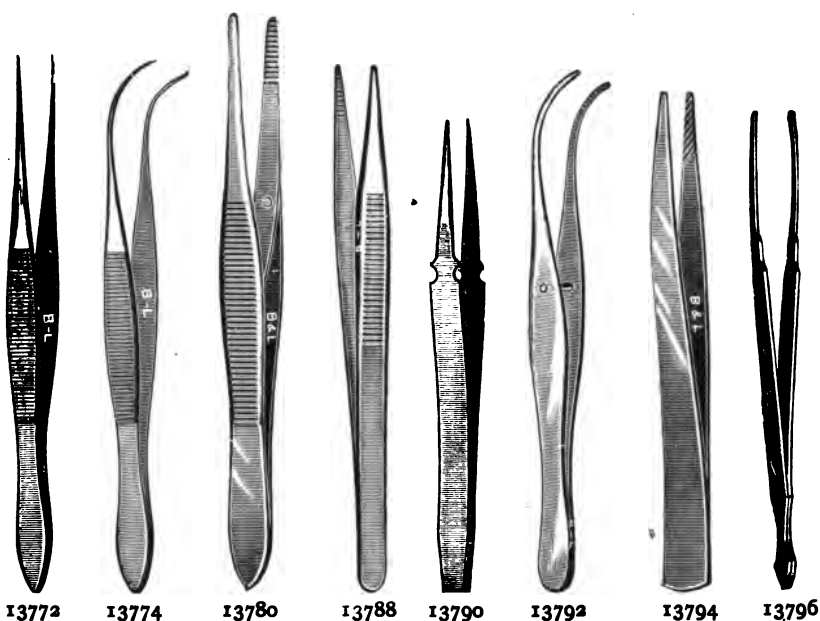
13753. Forceps, Bone-Cutting. Of best steel, nickel plated. Very strong curved blades. With spring for separating the blades. **Each \$1.15**

Special sets made up to order.



- Forceps, Cover Glass.** These forceps are of steel, best quality finish and nicked. Corrugated handles.
13754. **Forceps, Cover Glass.** Bent blades; length 105 mm. Each \$0.45
13756. **Forceps, Cover Glass.** Thin, straight blades; guide pin; length, 115 mm. Each \$0.50
13758. **Forceps, Cover Glass.** Self-closing; thin, bent blades; length 125 mm. Each \$0.65
13760. **Forceps, Cover Glass, Cornet's.** Made of one piece of spring brass, nickel plated. They are self-closing and hold the cover firmly. Only a small surface of the cover is touched by the tips of the forcep. Length, 120 mm. Each \$0.45
13762. **Forceps, Cover Glass, Ehrlich's.** With long, flat blades which come together accurately so that a cover is held firmly on the edge during the operation of making a blood spread. Have locking device to hold blades together. Length, 135 mm. Each \$1.10
13764. **Forceps, Cover Glass, Novy's.** These forceps have a flat, lower blade with a broad end and thin sharp edge, and a curved, pointed upper blade. The thin edge of the lower blade enables a cover to be easily picked up; the curve of the upper blade prevents capillary drainage, while the small contact of the point on the specimen enables it to be thoroughly washed. Made of steel, nickel plated. Each \$0.45

Special sets made up to order.



- 13766. Forceps, Cover Glass, Novy's.** With locking device which holds the points together. (See page 168.) **Each \$1.25**
- 13768. Forceps, Cover Glass, Stewart's.** Made of nickeled spring wire; light; easily sterilized; self-closing. Only a small surface of the cover is grasped by the blades. May be laid on the table, holding the cover perfectly level. (See page 168.) **Each \$0.15**
- 13770. Forceps, Cover Glass, Stewart's.** With ring to prevent blades from spreading sideways. (See page 168.) **Each \$0.10**
- Forceps, Dissecting.** These instruments are our best quality; made of best steel, nickel plated and finished in the best possible manner. The handles are corrugated and the points file-cut. Guide pins ensure accurate closing of the points.

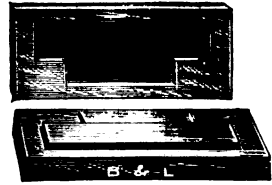
Catalogue Numbers	Description	Length, mm.	Finish of Points	Each
13772.	Fine; straight points	115	Fine file-cut	\$0.40
13774.	Fine; curved points	110	Fine file-cut	.40
13776.	Medium fine; straight points	115	Fine file-cut	.40
13778.	Medium fine; curved points	110	Fine file-cut	.40
13780.	Medium heavy; straight points	105	Corrugated	.45
13782.	Heavy; straight points	115	Corrugated	.45
13784.	Heavy; straight points	130	Corrugated	.45
13786.	Heavy; straight points	145	Corrugated	.50
13788.	Heavy; straight points; for vertebrate work; no guide pin	125	Corrugated	.35

- Forceps, Dissecting.** These instruments are good quality, made of best steel, nickel plated. Smooth handles.
- 13790. Forceps, Dissecting.** Fine; straight, smooth points; length, 95 mm. **Each \$0.25**

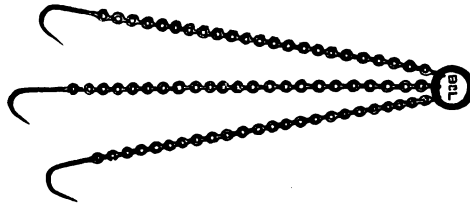
Special sets made up to order.



13798, 13800



13802, 13804



13808

- 13792. Forceps, Dissecting.** Fine; curved, fine file-cut points; guide pin; length, 120 mm. (See page 169.) **Each \$0.30**
- 13794. Forceps, Dissecting.** Of steel; heavy; straight, blunt, corrugated points; length, 110 mm. (See page 169.) **Each \$0.15**
- 13796. Forceps, Dissecting.** Of spring brass, nickel plated; straight, blunt points; length, 83 mm. (See page 169.) **Each \$0.10**
- 13797. Forceps.** For removing specimens from deep jars or bottles. Made of steel, nickel plated.

Length, mm.	250	300	375	450
Each	1.50	2.00	2.75	3.50

Hones. For razors, scalpels, etc. The Yellow Belgian hone with Palm Oil soap is used for first grinding, followed by the Blue Green hone. These hones are of the finest possible grain, free from grit. They are selected with the greatest care and are guaranteed perfect in every respect. Each is furnished in wood block with cover. The Blue hones have rubbing stone.

Catalogue Number	Description	Size, mm.	Each
13798.	Yellow Belgian	225 x 50	\$4.00
13800.	Yellow Belgian	150 x 40	\$2.50
13802.	Blue Green	260 x 50	\$1.00
13804.	Blue Green	180 x 40	\$0.75

- 13806. Palm Oil Soap.** **Per cake \$0.15**
- 13808. Hooks and Chains.** Nickel plated; hooks with sharp points. **Each \$0.20**

Special sets made up to order.



13810. Knife, Brain. Blade very thin, of finest steel, in ebony handle.
Length of blade, 185 mm.; width, 26 mm. **Each \$1.50**

13812. Knife, Cartilage. All steel, nickel plated and best quality finish; extra heavy and strong; corrugated handle; cutting edge, 45 mm.
Each \$0.35

13814. Knife, Cartilage. With good quality finish. **Each \$0.25**

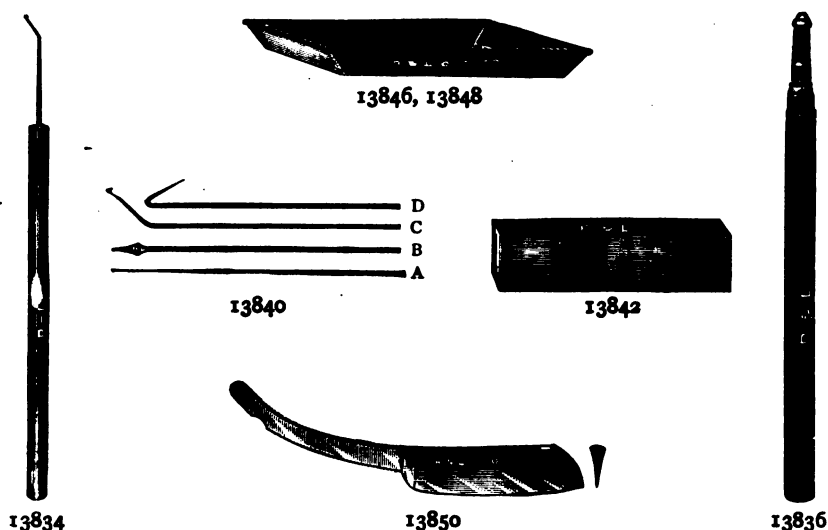
13816. Knives, Cartilage (Prosecting Knives). Ebony handle; blades extra heavy and extra thick at the back.

Cutting edge, mm.	70	90
Each	.75	1.00

Needles, Dissecting. Made of knife steel, with ebony handle.

Catalogue Number	Description	Length, mm.	Each
13818.	Straight, sharp	135	\$0.35
13820.	Curved, sharp	130	.35
13822.	Curved, blunt	130	.35

Special sets made up to order.



13824.	Spear, single cutting edge	130	.40
13826.	Spear, double cutting edge	125	.40
13828.	Harpoon, two cutting edges	145	.60
13830.	Hook, fine and delicate	145	.40

13832. **Needles, Dissecting.** Straight; in cedar wood handle.

Per ten \$0.25

13834. **Needles, Dissecting.** Bent.

Per ten \$0.25

13836. **Needle Holders.** With bone handle and nicked, adjustable clamp holding any size needle. The steel needles illustrated, No. 13840, are recommended.

Length, mm.	85	110
Each	.05	.07

13838. **Needle Holder** (85 mm.), with set of needles No. 13840. Each \$0.08

13840. **Needles.** For above holders. Of steel; length, 50 mm.

Style	A	B	C	D
Per ten	.05	.07	.05	.05

13842. **Oil Stone.** For sharpening scalpels, etc. These are genuine Arkansas stone. Length, 75 mm.; width, 22 mm. Each \$0.60

13844. **Pan, Dissecting.** Of copper, tinned inside; with corner hooks, chains and rings for holding animals. Size, 430 x 250 x 30 mm.

Each \$2.50

13846. **Pan, Dissecting.** Of heavily tinned metal, japanned; with metal loops in the corners to which the limbs of animals are tied during dissection. Size, 280 x 220 x 35 mm.

Each \$0.25

13848. **Pan, Dissecting.** Style 13846. Bottom lined with wax.

Each \$0.45

Special sets made up to order.



13852-13860



13862-13870

13850. Razor, Robb's Aseptic. For shaving animals preparatory to inoculation. It is easily cleaned and sterilized and there are no joints to accumulate septic matter. Made of best steel, nickel plated; with corrugated handle. Cutting edge, 70 mm. Furnished in neat case. (See illustration, page 172.) **Each \$2.00**

Knives, Section. With straight steel blade, flat on one side, and solid ebony handle. Very best quality of steel with best quality finish. Each in case.

Catalogue Number	Length of Blade, mm.	Each
13852.	140	\$4.00
13854.	120	3.00
13856.	100	2.50
13858.	90	2.25
13860.	75	2.00

Razors, Section. Folding in case. These razors are made of the best quality English steel and especially designed for section cutting. The quality designated as "Best," has heavy back, less liable to yield under manipulation; while the other has lighter weight blade for general laboratory use.

Catalogue Number	Quality	Length of Blade, mm.	Shape	Each
13862.	Best	100	Flat concave	\$1.50
13864.	Best	75	Flat concave	1.25

Special sets made up to order.



13872



A B C D E F G H J K L

13874-13894 and 13904-13924

13866.	Good	75	Flat concave	1.00
13868.	Good	75	Both sides flat	1.25
13870.	Best	75	Both sides concave	1.25

13872. **Saw, Bone.** Of steel, nickel plated; with detachable blade for sterilization. Length of blade, 200 mm. **Each \$3.00**

Scalpels. These instruments are of best grade steel, properly tempered to retain a good cutting edge. They are carefully finished in every detail. The all-steel scalpels are easily cleaned and sterilized. We offer the following series of instruments:

A Quality. Of superior stock and very best attainable quality.

B Quality. For laboratory work where delicate work is to be done.

C Quality. For student use in general dissection.

A quality instruments are made of the best selected English steel, evenly tempered, ground to a full concavity to give a sensitive cutting edge, and finely finished. They are recommended for the most delicate dissections and where instruments of precision are required.

B quality instruments are made of selected English steel, well tempered, ground to full concavity, and well finished. They are designed to meet the requirements of general laboratory dissection where a perfect cutting edge is essential.

C quality instruments are made of selected steel, carefully tempered and ground to a semi-concavity. Recommended for student use in ordinary dissection. Equal to any purpose where an extra fine edge is not required. **All instruments bear our mark B&L and letter designating quality.**

Special sets made up to order.



13896-13902



13926-13932



13942-13948

Scalpels, Dissecting. A quality; ebony handle. (See illustrations page 174.)

Catalogue Number	Cutting Edge, mm.	Style	Each
13874.	35	A	\$1.00
13876.	35	B	1.00
13878.	35	C	1.00
13880.	10	D	1.00
13882.	50	E	1.00
13884.	50	F	1.00
13886.	45	G	1.00
13888.	38	H	1.00
13890.	32	J	1.00
13892.	25	K	1.00
13894.	18	L	1.00

Scalpels, Dissecting. A quality; all steel. Easily cleaned and sterilized.

Catalogue Number	Cutting Edge, mm.	Each
13896.	45	\$1.25
13898.	38	1.25
13900.	32	1.25
13902.	25	1.25

Special sets made up to order.

Scalpels, Dissecting. B quality; ebony handle. (See illustrations page 174.)

Catalogue Number	Cutting Edge, mm.	Style	Each
13904.	35	A	\$0.35
13906.	35	B	.35
13908.	35	C	.35
13910.	10	D	.35
13912.	50	E	.35
13914.	50	F	.35
13916.	45	G	.35
13918.	38	H	.35
13920.	32	J	.35
13922.	25	K	.35
13924.	18	L	.35

No. 13912, having a straight cutting edge, is useful for trimming paraffin blocks, corks, etc.

Scalpels, Dissecting. B quality; all steel. Easily cleaned and sterilized.

Catalogue Number	Cutting Edge, mm.	Each
13926.	45	\$0.40
13928.	38	.40
13930.	32	.40
13932.	25	.40

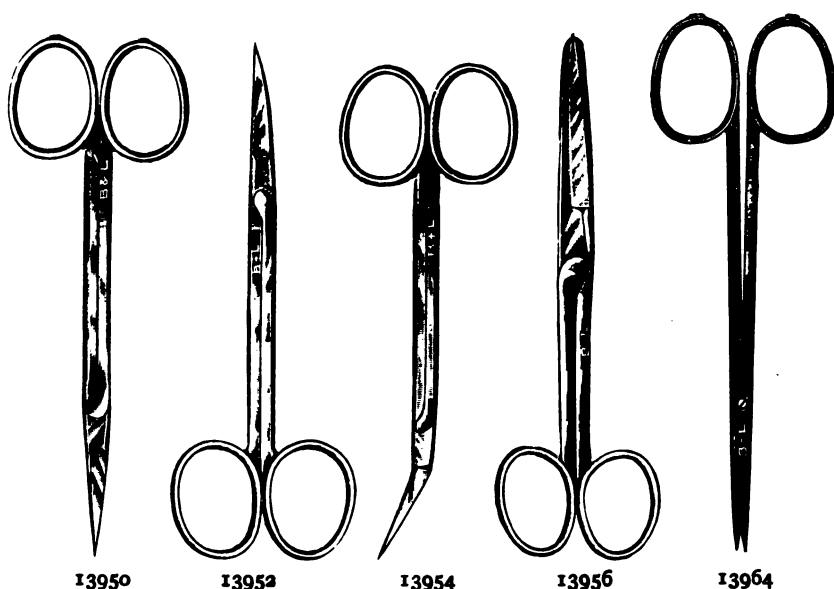
Scalpels, Dissecting. C quality; ebony handle.

Catalogue Number	Cutting Edge, mm.	Each
13934.	45	\$0.25
13936.	38	.25
13938.	32	.25
13940.	25	.25

Scalpels, Dissecting. C quality; all steel. Easily cleaned and sterilized. (See illustration, page 175.)

Catalogue Number	Cutting Edge, mm.	Each
13942.	45	\$0.30
13944.	38	.30
13946.	32	.30
13948.	25	.30

Special sets made up to order.



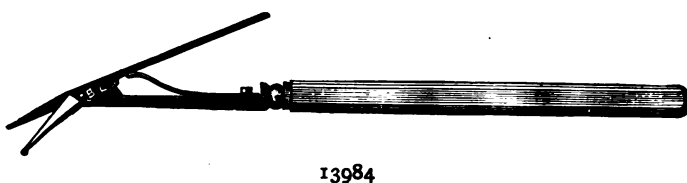
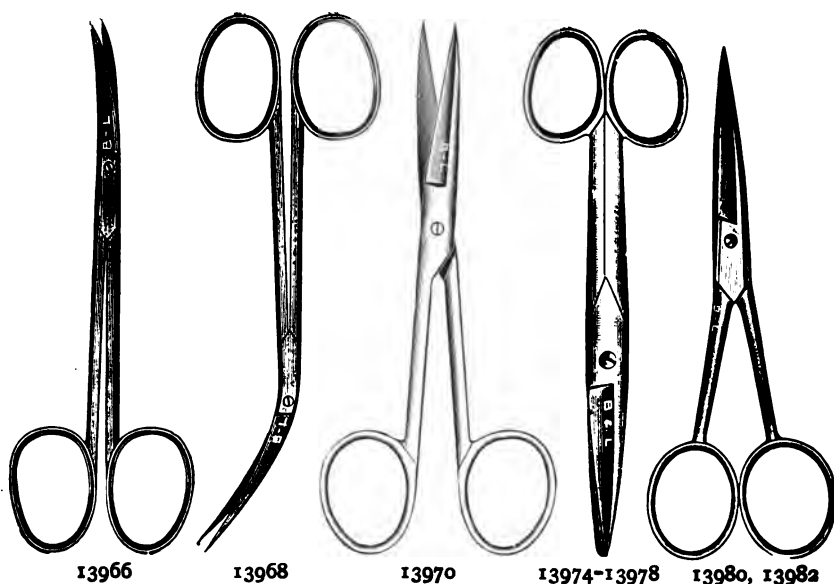
Scissors, Dissecting. Of steel, best quality, very finely finished. Made with lock joint, which ensures firmness and allows the blades to be quickly taken apart for thorough cleaning and sterilization. Nos. 13950, 13952 and 13954 are suitable for the most delicate dissections; Nos. 13956, 13958 and 13960 are heavier scissors, for gross anatomical work.

Catalogue Number	Description	Length, mm.	Each
13950.	Fine; straight	115	\$1.00
13952.	Fine; curved	115	1.00
13954.	Fine; bent	115	1.00
13956.	Heavy; straight, one blunt blade	105	.75
13958.	Heavy; straight, one blunt blade	115	1.00
13960.	Heavy; straight, one blunt blade	125	1.00
13962.	Heavy; straight, both blades blunt	140	1.00

Scissors, Dissecting. Of steel, nickeled; best quality.

Catalogue Number	Description	Length, mm.	Each
13964.	Fine; straight	115	\$0.50
13966.	Fine; curved	115	.60
13968.	Fine; bent	115	.60
13970.	Medium; straight	115	.40
13972.	Medium; straight; one blunt point	115	.50
13973.	Heavy; straight	125	.60

Special sets made up to order.



13974.	Heavy; straight; one blunt point	125	.60
13975.	Heavy; straight; one blunt point	140	.75
13976.	Heavy; straight; one blunt point	150	.90
13978.	Heavy; straight; anatomical	175	1.00

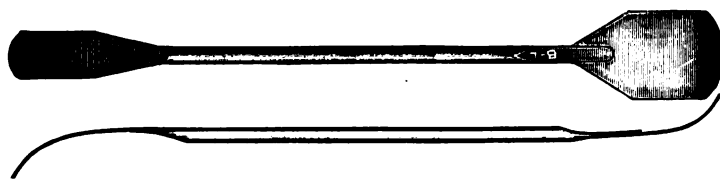
Scissors, Dissecting. Of steel.

Catalogue Number	Description	Length, mm.	Each
13980.	Medium; straight; best quality	115	\$0.40
13982.	Medium; straight; good quality	115	.25

13984. Scissors, Dissecting. These scissors are very delicate and are suited to the finest invertebrate dissecting. All metal parts are nickel plated; handles of genuine ivory. Length of instrument, 140 mm.; blades, 10 mm. **\$2.50**

Section Lifters. Nos. 13986 to 13990 are of metal throughout, nickel plated, Nos. 13992 to 14002 have ebony handles. The blades of Nos. 13996 to 14000 are of spring metal, nickel plated, and are very thin and flexible. The perforated lifter, No. 14002, is very useful for handling delicate specimens.

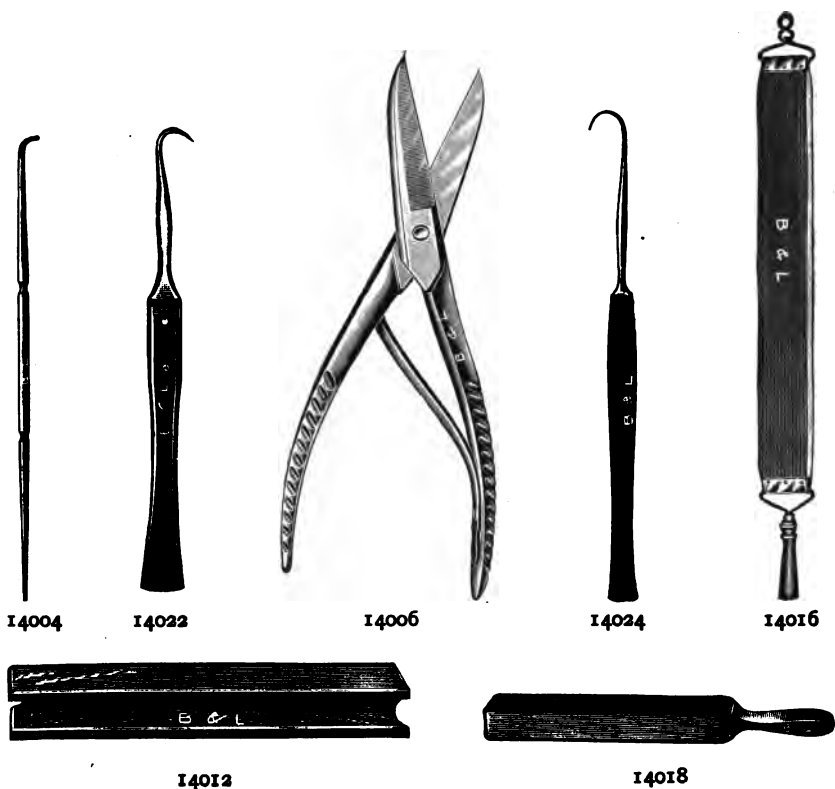
Special sets made up to order.



13986

Catalogue Number	Length, mm.	Width of Blade, mm.	Each
13986.	200	11 and 22	\$0.25
13988.	160	5 and 22	.15
13990.	100	18	.10
13992.	135	6 and 10	.40
13994.	130	6	.35
13996.	147	10	.30
13998.	147	20	.35
14000.	157	35	.40
14002.	165	18	.75

Special sets made up to order.



14004. Seeker. Nickered steel. One end tapers to a blunt point; the curved end is sharply pointed and has an inner sharp edge. Length, 150 mm. **Each \$0.15**

14006. Shears, Cartilage. These shears have short, knife-shaped blades, lock joint, and corrugated handles with detachable spring between them to open the blades. Made of steel, best quality, nickered. Length, 230 mm.; blades, 60 mm. **Each \$2.25**

Strops. These strops are made from the finest material obtainable and will meet all requirements. The block strops are a strip of finest leather, perfectly blocked on a solid wood back. The strop with swivel and handle is a wooden strip with prepared canvas on one side and fine leather on the other.

Catalogue Number	Description	Length, mm.	Each
14012.	Block strop; coarse	375 x 65	\$1.25
14014.	Block strop; fine	375 x 65	1.25
14016.	Leather and canvas strop, with swivel and handle,	450 x 60	4.00
14018.	Razor strop; 4-sided	350	1.50

14020. Strops. Dressing for above strops. **Per box \$0.25**

Special sets made up to order.



14026, 14028

14022. **Tenaculum.** Steel, with sharp hook; ebony handle. Length, 160 mm. **Each \$0.25**
14024. **Tenaculum.** All steel. Length, 160 mm. **Each \$0.40**

DISSECTING INSTRUMENTS IN SETS

The sets have been made up of the most desirable instruments for work in anatomy, botany, and histology. They are uniform in quality and finished in the neatest manner possible. The cases are our folding pocket form, the instruments thus occupying the least possible space and being thoroughly protected. Genuine Morocco leather is used in the best grade cases, best quality leatherette, almost equal to leather in strength and appearance, being employed for the cheaper sets. The inside of the cases is finished in velvet, cloth, or chamois, and properly reinforced on the folding and outside edges. Separate loops for each instrument and protecting flaps keep the instruments in place and well protected. A button-clasp fastens the case when folded up.

14026. **Dissecting Set.** Consisting of the following instruments, in lined leatherette one-fold case, with protecting flaps: **Each \$1.25**
- 1 Scalpel, No. 13936; ebony handle, edge 38 mm.
 - 1 Scissors, No. 13982; medium straight.
 - 1 Forceps, No. 13794; blunt.
 - 1 Forceps, No. 13792; fine, curved points.
 - 2 Needle Holders, No. 13836; length, 85 mm.; fitted with needles.
14028. **Dissecting Set.** Consisting of the following instruments, in Morocco leather one-fold case, with velvet lining and protecting flaps: **Each \$2.25**
- 1 Scalpel, No. 13918; ebony handle, edge 38 mm.
 - 1 Scissors, No. 13980; medium, straight, nicked.
 - 1 Forceps, No. 13778; medium fine, curved points.
 - 1 Forceps, No. 13780; medium heavy; straight points.
 - 2 Needle Holders, No. 13836; length, 110 mm.; fitted with needles.

Special sets made up to order.



14030, 14032, 14034, 14036

14030. Dissecting Set. Consisting of the following instruments, in lined leatherette two-fold case, with cloth protecting flaps:

Each \$2.25

- 1 Scalpel, No. 13934; ebony handle, edge 45 mm.
- 1 Scalpel, No. 13940; ebony handle, edge 25 mm.
- 1 Scissors, No. 13982; medium, straight.
- 1 Forceps, No. 13788; heavy, straight, for vertebrate work.
- 1 Tenaculum, No. 14022.
- 1 Cartilage Knife, No. 13814; all steel, edge 45 mm.
- 1 Triple Chain and Hooks, No. 13808.
- 1 Blowpipe, No. 13749.

14032. Dissecting Set. Consisting of the following instruments, in Morocco leather two-fold case, with velvet lining and chamois skin protecting flaps:

Each \$3.50

- 1 Scalpel, No. 13916; ebony handle, edge 45 mm.
- 1 Scalpel, No. 13922; ebony handle, edge 25 mm.
- 1 Scissors, No. 13980; medium, straight, nicked.
- 1 Forceps, No. 13788; heavy, straight, for vertebrate work.
- 1 Tenaculum, No. 14022.
- 1 Cartilage Knife, No. 13812; all steel, edge 45 mm.
- 1 Seeker, No. 14004.
- 1 Triple Chain and Hooks, No. 13808.
- 1 Blowpipe, No. 13749.

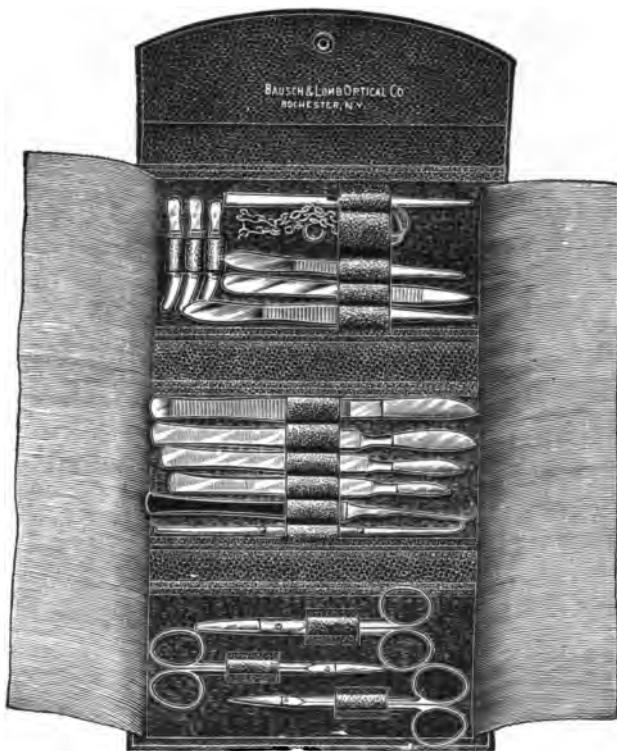
14034. Dissecting Set. Consisting of the following instruments, in lined leatherette two-fold case, with cloth protecting flaps:

Each \$3.25

- 1 Scalpel, No. 13934; ebony handle, edge 45 mm.
- 1 Scalpel, No. 13940; ebony handle, edge 25 mm.
- 1 Scissors, No. 13964; fine, straight.
- 1 Scissors, No. 13982; medium, straight.
- 1 Forceps, No. 13792; fine, curved points.
- 1 Forceps, No. 13794; medium, blunt points.
- 2 Needle Holders, No. 13836; length, 85 mm.; fitted with needles.
- 1 Section Razor, No. 13866; folding handle.

Special sets made up to order.

Bausch & Lomb Optical Co., Rochester, N. Y., U. S. A.,



14038, 14040

14036. Dissecting Set. Consisting of the following instruments, in Morocco leather two-fold case, with velvet lining and chamois skin protecting flaps: **Each \$5.00**

- 1 Scalpel, No. 13916; ebony handle, edge 45 mm.
- 1 Scalpel, No. 13920; ebony handle, edge 32 mm.
- 1 Scissors, No. 13964; fine, straight, nicked.
- 1 Scissors, No. 13980; medium fine, straight, nicked.
- 1 Forceps, No. 13778; medium fine, curved points.
- 1 Forceps, No. 13780; medium heavy, straight points.
- 2 Needle Holders, No. 13836; length, 110 mm.; fitted with two needles.

- 1 Section Razor, No. 13864; folding handle.

14038. Dissecting Set. Consisting of the following instruments, in Morocco leather two-fold case, with velvet lining and chamois skin protecting flaps: **Each \$5.00**

- 1 Scalpel, No. 13926; all steel, edge 45 mm.
- 1 Scalpel, No. 13930; all steel, edge 32 mm.
- 1 Scalpel, No. 13932; all steel, edge 25 mm.
- 1 Scissors, No. 13964; fine, straight.
- 1 Scissors, No. 13975; heavy, straight, 140 mm. long.
- 1 Forceps, No. 13788; for vertebrate work.
- 1 Forceps, No. 13782; heavy, straight, 115 mm. long.
- 1 Cartilage Knife, No. 13812; all steel, edge 45 mm.
- 1 Tenaculum, No. 14024. (Continued on page 184.)

Special sets made up to order.



14043

- 1 Seeker, No. 14004.
- 1 Triple Chain and Hooks, No. 13808.
- 1 Blowpipe, No. 13749.

14040. Dissecting Set. Consisting of the following instruments, in Morocco leather three-fold case, with velvet lining and chamois skin protecting flaps: **Each \$8.00**

- 1 Scalpel, No. 13926; all steel, edge 45 mm.
- 1 Scalpel, No. 13930; all steel edge, 32 mm.
- 1 Scalpel, No. 13932; all steel, edge 25 mm.
- 1 Scissors, No. 13964; fine, straight, nicked.
- 1 Scissors, No. 13966; fine, curved.
- 1 Scissors, No. 13972; medium, straight, probe point.
- 1 Forceps, No. 13788; for vertebrate work.
- 1 Forceps, No. 13780; medium heavy, straight, 115 mm. long.
- 1 Forceps, No. 13784; heavy, straight, 130 mm. long.
- 1 Cartilage Knife, No. 13812; all steel, edge 45 mm.
- 1 Tenaculum, No. 14024.
- 1 Seeker, No. 14004.
- 1 Triple Chain and Hooks, No. 13808.
- 1 Blowpipe, No. 13749.
- 3 Serrafines (Artery Forceps), No. 13750.

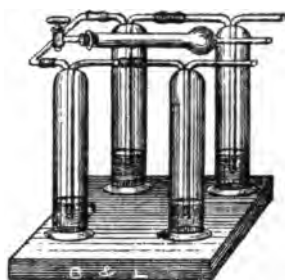
14041. Dissecting Set, Botanical. Designed and recommended by Prof. W. F. Ganong. This set embraces just those instruments deemed essential in plant analysis, viz.: A two-lens magnifier, two dissecting needles, one fine forceps, and one scalpel. These are enclosed in a strong, leather-covered case of such shape and size as to be easily carried in the pocket. The case serves also to support the lens when flat with the high power in focus, when on its edge with the low power in focus, so that the whole forms a fair dissecting microscope. **Each \$1.75**

14042. Dissecting Set as designed by Prof. B. P. Colton, and recommended by him in his book entitled, "Practical Zoology." The set is composed of the following instruments, in lined leatherette one-fold case, with protecting flaps: **Each \$1.75**

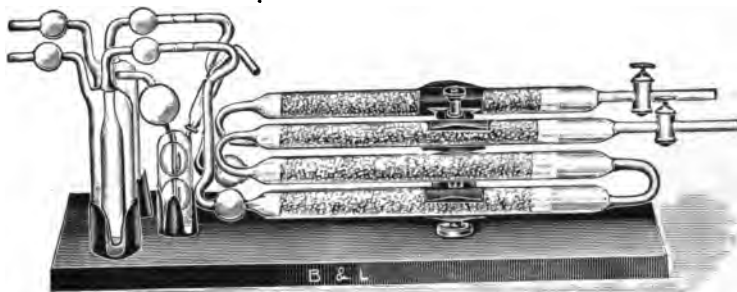
- 1 Scalpel, No. 13936; ebony handle, edge 38 mm.
 - 1 Scissors, No. 13980; medium, straight.
 - 1 Forceps, No. 13788; heavy, straight points.
 - 1 Cartilage Knife, No. 13812; all steel, edge 45 mm.
 - 1 Blowpipe, No. 13749.
 - 2 Needle Holders, No. 13836 (85 mm.); with straight needles.
- Special sets made up to order.*



14044



14046



14045

Dissecting Sets, Johns Hopkins University. Sets Nos. 14043 and 14044 are used in the laboratories of Johns Hopkins University, and are selected with a view of securing the best quality, most effective apparatus regardless of cost. The knives, forceps, scissors, probe, hook, etc., are special shapes not found in the market, and made to order for these sets only. They are not listed elsewhere in this catalogue, but will be furnished separately on order. Furnished in velvet-lined, leather-covered box with catch.

14043. Dissecting Set, Johns Hopkins Anatomical. Consisting of the following instruments, in Morocco leather covered box, with velvet lining: Each \$5.00

- 1 Scalpel, No. 13916; ebony handle, edge 45 mm.
- 1 Scalpel (Special); ebony handle, edge 38 mm.
- 1 Scalpel (Special); ebony handle, edge 32 mm.
- 1 Scalpel (Special); ebony handle, edge 25 mm.
- 1 Scissors (Special); heavy, straight, very fine metal; blades, 40 mm.; total length, 140 mm.
- 1 Forceps (Special); heavy, straight, coarsely serrated points; length, 140 mm.
- 1 Probe (Special); coarse, all steel octagonal handle; length, 145 mm.
- 1 Dissecting Hook (Special); double end, two points on each end.

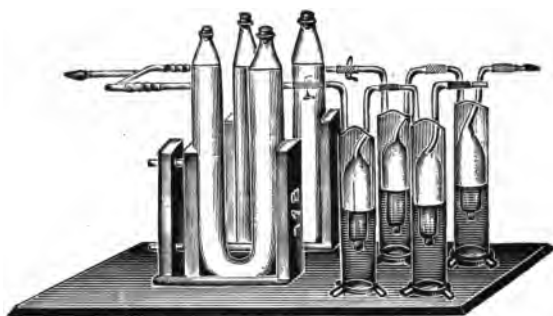
14044. Dissecting Set, Johns Hopkins Histological. Consisting of the following instruments, in Morocco leather covered box, with velvet lining: Each \$3.75

- 1 Scalpel (Special); handle, edge 25 mm.
- 1 Scissors, No. 13964; fine, straight. (Continued on page 186.)

Special sets made up to order.



14048



14050



14052, 14054



14056, 14058

1 Forceps (Special); straight, heavy, with fine, smooth points, very accurately adjusted.

1 Lancet Needle (Special); double blade, ebony handle.

2 Teasing Needles (Special); straight, ebony handle.

1 Section Lifter, No. 13998; blade, 20 mm.; ebony handle.

Distilling Apparatus. See STILLs, FLASKS, TUBES.

Droppers. See PIPETTES, BOTTLES.

14045. Drying Apparatus. After Bender and Hobein for elementary chemical analysis. Complete on polished wooden base. (See page 185.)

Each \$13.50

14046. Drying Apparatus, Bennert's. (See page 185.)

Each \$9.75

14048. Drying and Washing Apparatus, Glazer's.

Each \$10.00

14050. Drying Apparatus, Tauber's.

Each \$12.00

Drying Cylinders. See CHLORIDE CALCIUM CYLINDERS.

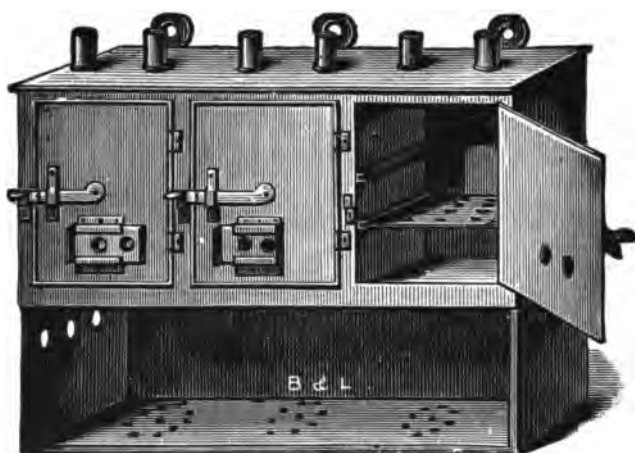
14052. Drying Ovens, Single Wall. Made of heavy polished copper with extra sheet iron bottom to prevent burning out. Provided with tubulatures for thermometer and gas regulator, and supported on detachable iron legs.



14060, 14062



14066



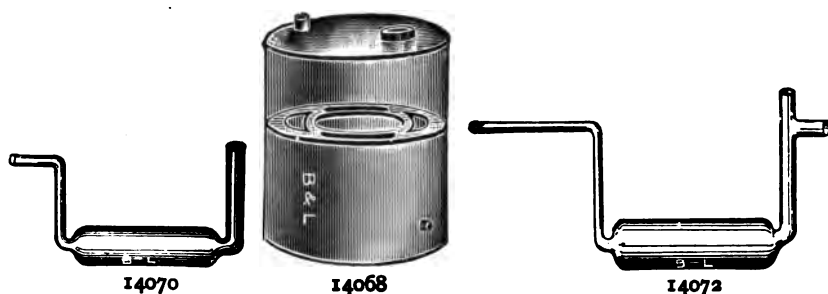
14064

Height, without legs, mm.	150	200	250
Length, mm.	200	250	300
Width, mm.	150	200	250
Removable shelves	1	1	2
Each	4.50	6.00	8.00

14054. Drying Ovens, Single Wall. With enclosed base.

Each	4.50	6.00	8.00
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14056. Drying Ovens, Double Wall. Made of heavy copper throughout, with an extra sheet iron bottom to prevent burning out. Pro-



vided with tubulatures for thermometer and gas regulator, and supported on detachable iron legs. (See illustration, page 186.)

Height, without legs, mm.	150	200	250
Length, mm.	200	250	300
Width, mm.	150	200	250
Removable shelves	1	1	2

Each	7.50	9.50	12.00
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14058. Drying Ovens, Double Wall. With enclosed base.

Each	7.50	9.50	12.00
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14060. Drying Ovens, Double Wall. Same as No. 14056, but with water bath top. (See illustration, page 187.)

Height, without legs, mm.	150	200	250
Length, mm.	250	250	300
Width, mm.	150	200	250
Removable shelves	1	1	2

Each	10.00	12.00	15.00
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14062. Drying Ovens, Double Wall. With enclosed base.

Each	10.00	12.00	15.00
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14064. Drying Oven, Fresenius'. A single-wall oven made of heavy polished copper, with sheet iron back and base. Partitioned into three chambers, each 175 x 175 mm. and provided with movable shelves, doors with ventilators, and tubulatures for thermometer and gas regulator. Outside dimensions: Length, 525 mm.; height, 220 mm.; depth, 175 mm. May be hung upon the wall. **Each \$20.00**

14066. Drying Oven, Rammelsberg's. Cylindrical. Made of polished copper. Height, 150 mm.; diameter, 125 mm. **Each \$2.50**

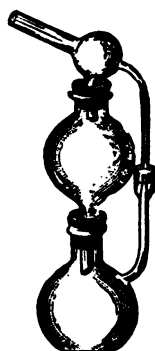
14068. Drying Oven, Royal Berlin Porcelain. With openings in top for thermometer and ventilation. One shelf. Height, 120 mm.; diameter, 95 mm. **Each \$3.00**

14069. Drying Plate. For drying blood films. A heavy copper plate, 300 x 100 x 6 mm., to be supported on tripod. **Each \$4.00**

14070. Drying Tubes, Liebig's. **Each \$0.25**

14072. Drying Tubes, Mitscherlich's. **Each \$0.30**

Other Drying Tubes. See CHLORIDE CALCIUM TUBES.



14090



14082, 14084



14088



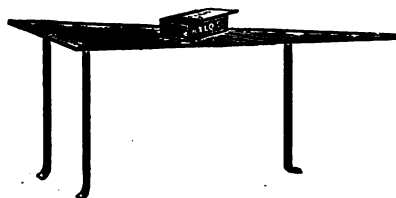
14086



14092



14074



14076

Elastic Bands. See RUBBER BANDS.

- 14074. Embedding Box.** For use in embedding objects in paraffin. Consists of two metal L's with metal plate. Various sized objects may be embedded by placing the L's in different positions.

Height, mm.	.10	20	30
Each	.45	.45	.45

- 14076. Embedding Table.** For use in embedding objects in paraffin. Consists of a triangular copper plate 400 mm. long and 190 mm. wide at the large end. A burner is placed under the acute angle of the plate, the heat being transmitted through the metal. **Each \$2.00**

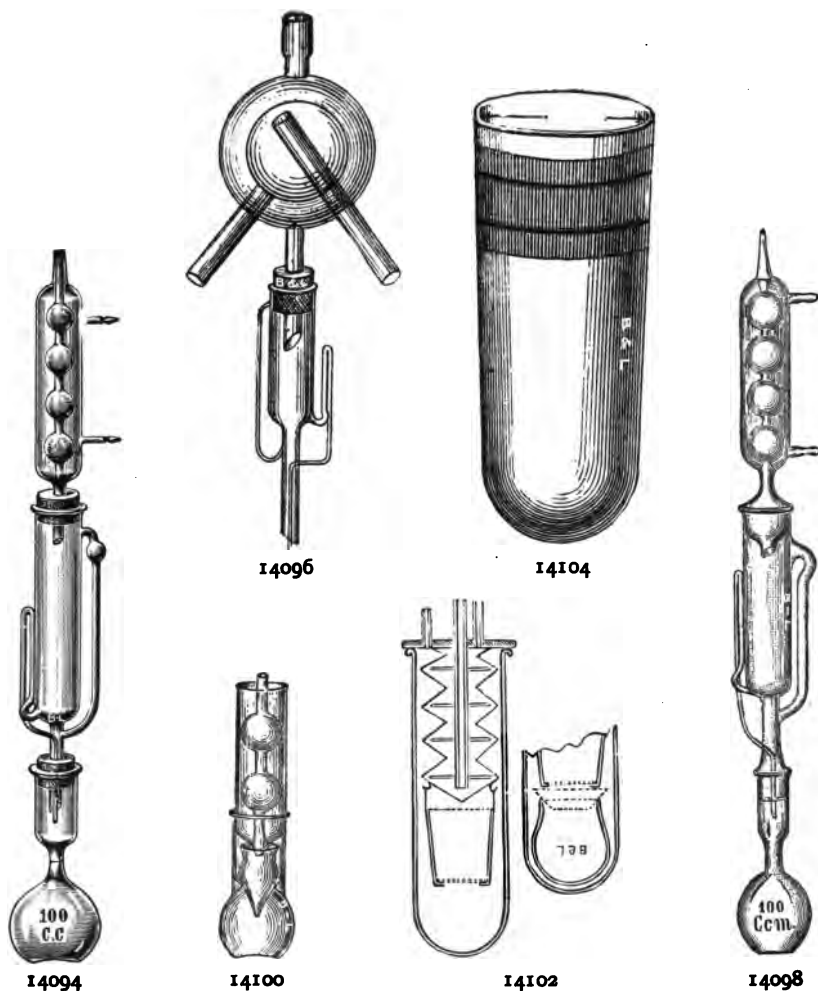
- 14078. Emery Cloth.**

Grade	Fine	Medium	Coarse
Per sheet	.05	.05	.05

- 14080. Emery Paper.**

Grade	Fine	Medium	Coarse
Per sheet	.03	.03	.03

Ether Tubes. See TUBES.



14082. Eudiometers, Bunsen's. With platinum electrodes. (See page 189.)

Capacity, cc.	50	50	100	100	100
Graduated, cc.	1-5	1-10	1	1-2	1-5
Each	1.65	2.00	2.00	2.25	2.50

14084. Eudiometers, Bunsen's. Graduated in millimeters.

Graduated, mm.	300	500	700	800
Each	1.65	2.00	2.50	3.25

Eudiometers, Hoffman's. See HOFFMAN'S LECTURE APPARATUS.

14086. Eudiometers, Mitscherlich's. With glass stop cock and platinum electrodes. (See illustration, page 189.)

Capacity, cc.	50	100
Graduated, cc.	1-5	1-5
Each	3.00	3.50



14105



14106

14088. Eudiometers, Ure's. Graduated in cubic centimeters. With platinum electrodes. (See illustration, page 189.)

Capacity, cc.	50	100
Graduated, cc.	1-5	1-2
Each	2.00	2.00

Other Eudiometers. See GAS MEASURING TUBES.

14090. Extraction Apparatus, Drechsel's. New form; fitted with corks. (See illustration, page 189.)

Capacity, cc.	100	250
Each	.80	1.15

14092. Extraction Apparatus, Soxhlet's. Of clear white glass. (See illustration, page 189.)

Capacity, grams	60	100	150	200
Each	1.15	1.50	2.00	2.25

14094. Extraction Apparatus, Soxhlet's. Complete with flask and condenser.

Capacity of flask, cc.	100	150	200
Each	2.25	2.50	3.50

14096. Extraction Apparatus, Soxhlet's. With ball condenser of brass, nickel plated. Capacity, 100 cc. **Each \$5.00**

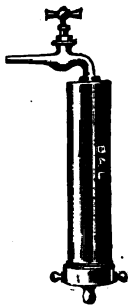
14098. Extraction Apparatus, Soxhlet's. With ground joints. Capacity, 100 cc. **Each \$5.00**

14100. Extraction Apparatus, Thorn's.

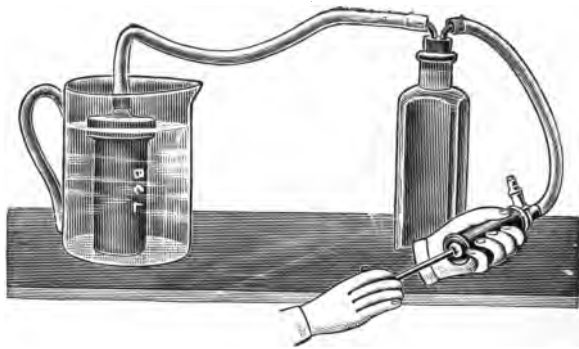
Height, mm.	180	240	330
Diameter, mm.	30	40	55
Each	2.40	4.00	7.00

14102. Extraction Apparatus, Wiley's. A glass tube, with ground flange, containing a metal condenser and suspended porcelain Gooch crucible. No stoppers of any kind are required. Permits double weighing, both of residue and extracted matter. **Each \$5.00**

Extraction Apparatus. Other kinds to order.



14129



14128



14130



14126



14118

14104. Extraction Thimbles. Of fat-free Schleicher & Schuell paper; for use with extraction apparatus. The use of these tubes renders it impossible for any of the material being extracted to find its way into the solvent. Seamless; may be used repeatedly.

Length, mm.	77	80	80	90	94	123
Diameter, mm.	30	22	33	19	33	43

Per package of twenty-five 2.00 1.85 2.00 1.85 2.75 4.25

Extraction Paper. See MILK TESTING APPARATUS.

14105. Farinatom, Heinsdorf's. For determining the percentage of flour in malt and grain. (See illustration, page 191.)

Fermentation Tubes. See URINARY APPARATUS.

14106. Figures. Of steel; for stamping steel, iron, bullion, etc. Set of nine.

Face, mm.	1½	3	4½	6	8	10	12
Per set	.80	.90	1.00	1.25	1.50	2.00	2.50

14108. Files, Flat. Best quality.

Length, mm.	75	100	125	150	175	200
Each	.20	.20	.25	.28	.30	.35

14110. Files, Round. (Rat tail); best quality.

Length, mm.	75	100	125	150	175	200
Each	.12	.15	.20	.25	.28	.30

14112. Files, Triangular. For cutting glass tubing; best quality.

Length, mm.	75	100	125	150	175	200
Each	.20	.20	.25	.28	.30	.35

14114. Files, Cork. With fine points for perforating corks.

Length, mm.	75	100	125	150	200
Each	.12	.15	.20	.25	.30

14116. File Handles. Best quality.

Each \$0.05

FILTERS, BERKEFELD

These filters give a continuous flow of perfectly pure water in large or small quantities according to pressure. The filtered liquid is absolutely free from germs or any solid particles. The filter cylinder is made of infusorial earth and can be cleaned easily as all impurities remain on its surface from which they must be removed by a sponge or soft brush. All parts are detachable to admit of frequent cleaning and sterilizing.

14118. Filters, Berkefeld Laboratory. These filters are neatly nickel plated and designed to be screwed to any regular 18 mm. hose bib faucet. A two-way cock may be used which enables either filtered or unfiltered water to be drawn without removing the filter. (See page 192.)

Size, mm.	150x80	230x60	290x60
Each, Net	4.00	6.00	8.00

14120. Cylinder for renewal for No. 14118.

Each, Net	1.50	2.00	2.50
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14122. Two-way stop cock for No. 14118.

Each, Net \$2.00

14124. Wrench for opening filter No. 14118 for cleaning.

Each, Net \$0.50

14126. Filters, Berkefeld Medical or Laboratory. For use where liquids are to be sterilized, or beef tea, infusions, or antitoxins are to be made. Yield a clear, sterile blood serum and eliminate all fat from milk so as to make a perfectly clear milk serum. Price includes mantel and cylinder. (See illustration, page 192.)

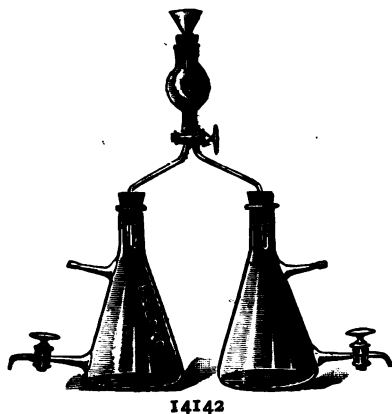
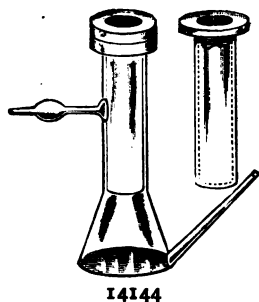
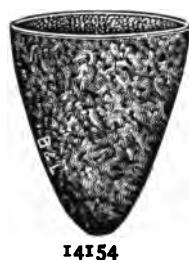
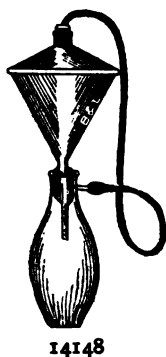
Size	Small	Medium	Large
Each, Net	2.00	4.25	5.35

14128. Filter, Berkefeld, Physicians. With hand pump; for use in sick rooms where a small quantity of pure water is wanted for immediate use. Capacity, one liter in eight minutes. In case. (See illustration, page 192.)

Each, Net \$8.00

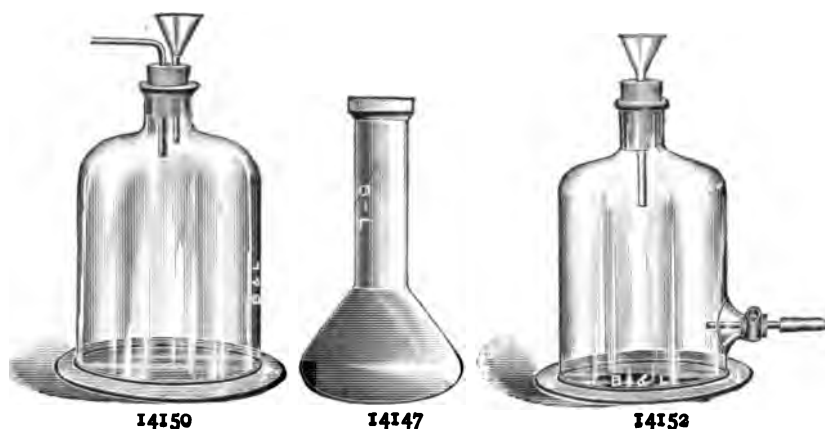
14129. Filter, Chamberlain's. This filter gives a continuous flow of perfectly pure water in large or small quantity according to pressure. The filter cylinder is made of infusorial earth and may be easily cleaned. All parts of the filter being detachable. The case is nickel plated. The faucet is left uncut so that the filter may be attached to any size pipe. (See illustration, page 192.)

14130. Filter, Chamberlain's. Consists of a glass receiver of 1000 cc. capacity for the fluid to be filtered, a heavy glass flask with side neck



for connecting the exhaust pump, and an unglazed porcelain tube through the wall of which the fluid is filtered. The Chapman Air Pump is suitable for use with this filter. (See page 192.)

- Each \$2.50
14132. Filter, Chamberlain's. With Chapman's Air Pump, No. 12034, No. 1. Each \$4.00
14134. Filter Tubes. Of porcelain; for Chamberlain's Filter. Each \$0.20
14136. Filter, Kitasato's. Same as No. 14130 except the shape of flask. Each \$2.50
14138. Filter, Kitasato's. With Chapman's Air Pump, No. 12034, No. 1. Each \$4.00
14140. Filter Tubes. Of porcelain; for Kitasato's Filter. Each \$0.20
14142. Filter, Double Exhaust. For obtaining separate filtrates. Consists of two exhaust flasks connected with a glass reservoir by glass tubes and a two-way stop cock. Each \$8.00
14144. Filter, Muencke's. This apparatus has a porcelain cylinder fitting air-tight in a glass receiver and is suitable for filtering fluids under pressure. The receiver has side neck for connecting with air pump, and outlet near bottom with glass stopper; not shown in illustration. Is easily sterilized. Capacity. 150 cc. Each \$2.75



14147. Filters, Pukal's. Balloon Filters.

Capacity, cc.	50	100	1000
Each	.40	.75	2.00

14148. Filter Apparatus. For filtering volatile liquids. Consists of a funnel with ground on cover, ground into receiver. (See page 194.)

Capacity, cc.	500	1000
Each	2.25	2.75

14150. Filter Apparatus. Consists of a glass plate and an open top bell glass fitted with rubber stopper and funnel. Without beaker.

Each \$2.00

14152. Filter Apparatus. Similar to No. 14150 except that bell glass has tubulature near bottom for connection with exhaust pump. Without beaker.

Each \$2.25

14154. Filter Bags. Felt. (See illustration, page 194.)

Capacity, liters	4	5	6½	8
Size, mm.	280x300	330x380	350x400	400x480
Each	1.10	1.25	1.60	1.90

Filter Cones. Platinum. See PLATINUM FILTER CONES.

14156. Filter Drying Bath. Porcelain; for drying precipitates on the filter. (See illustration, page 194.)

Each \$1.80

Filter Flasks. See FLASKS.

14158. Filter Hooks. Of glass; for use in funnels.

Size of funnel, mm.	125	150	200	250	300
Per ten	.50	.60	.70	.80	.90



14160-14166

Filter Paper. In addition to regular lines listed on the following pages, we offer the **B. & L. A1** brand, as a paper of good filtering quality at a moderate price. This paper is made abroad, where climatic conditions are favorable to its manufacture, and will be supplied in light and medium weights (similar to S. & S. 595 and 597) in sheets and circles as listed below.

All cut filters are put up 100 filters each in neat strong cardboard boxes.

14160. Filter Paper, B. & L. A1. Light weight. Circular filters.						
Diameter, mm.	55	70	90	110	125	150
Per hundred filters	.10	.12	.15	.18	.20	.25
Diameter, mm.	185	240	270	320	385	
Per hundred filters	.35	.50	.75	1.00	1.25	
14162. Filter Paper, B. & L. A1. Light weight. In sheets, 450 x 550 mm.						
						Per hundred sheets \$1.35
14164. Filter Paper, B. & L. A1. Medium weight. Circular filters.						
Diameter, mm.	55	70	90	110	125	150
Per hundred filters	.15	.18	.20	.25	.30	.40
Diameter, mm.	185	240	270	320	385	
Per hundred filters	.50	.75	1.00	1.25	1.50	
14166. Filter Paper, B. & L. A1. Medium weight. In sheets, 450 x 550 mm.						
						Per hundred sheets \$1.75
Filter paper, B. & L. Put up in packages of 100 filters under our own trade mark and found by tests to be equal to higher priced papers.						
14168. Filter Paper, B. & L. White. Circular filters.						
Diameter, mm.	55	70	90	110	125	150
Per hundred filters	.06	.08	.10	.12	.15	.18
Diameter, mm.	185	240	270	320	385	500
Per hundred filters	.20	.35	.50	.75	1.00	1.25



14168-14176

14172. Filter Paper, B. & L. White. In sheets, 480 x 480 mm.
Per hundred sheets \$1.10

14174. Filter Paper, B. & L. Gray. Circular filters. Tough and durable.
Diameter, mm. 150 190 250 330 400 450 500
Per hundred filters .20 .26 .35 .50 .65 .75 .90

14176. Filter Paper, B. & L. Gray. In sheets, 500 x 500 mm.
Per hundred sheets \$0.75

14178. Filter Paper, Baker & Adamson's. Washed in hydrochloric acid.
(Single washed).
Diameter, mm. 55 70 90 110 125 150
Per hundred filters .18 .36 .54 .65 .75 1.00

14180. Filter Paper, Baker & Adamson's. Selected thin paper. Washed in
hydrochloric and hydrofluoric acid (Double washed).
Diameter, mm. 55 70 90 110 125 150
Per hundred filters .40 .50 .65 .80 1.00 1.20

14182. Filter Paper, Baker & Adamson's. Selected thick paper. Washed
in hydrochloric and hydrofluoric acid (Double washed).
Diameter, mm. 55 70 90 110 125 150
Per hundred filters .40 .50 .65 .80 1.00 1.20

Filter Paper, Munktel's Swedish. Put up, five packages of 100 filters
each, in birch bark boxes which protect the paper from injury by
dust or moisture, and serve as excellent containers in the
laboratory.

14184. Filter Paper, Munktel's No. 00. For special scientific work.
Washed in hydrochloric and hydrofluoric acid.
Diameter, mm. 55 70 90 110 125 150
Ashes, gram .000011 .000018 .000030 .000045 .000058 .000083
Per hundred filters .50 .55 .80 1.00 1.10 1.25



14184-14196



14202. 14204

14186. **Filter Paper, Munktel's No. 0.** Washed in hydrochloric acid, removing traces of iron, alumina, lime, etc.

Diameter, mm.	55	70	90	110
Ashes, gram	.00006	.00010	.00017	.00025
Per hundred filters	.20	.27	.42	.55
Diameter, mm.	125	150	185	
Ashes, gram	.00033	.00046	.00070	
Per hundred filters	.63	85	1.25	

14188. **Filter Paper, Munktel's No. 0.** In sheets, 480 x 480 mm.

Per ten sheets \$0.85

14190. **Filter Paper, Munktel's No. 1 F.** Original Swedish, of best linen material. Most perfect filtering paper made. Leaves the smallest amount of ashes of any unwashed paper. Very strong; adapted to highest class of chemical work.

Diameter, mm.	55	70	90	110
Ashes, gram	.00014	.00023	.00038	.00056
Per hundred filters	.11	.16	.25	.30
Diameter, mm.	125	150	185	
Ashes, gram	.00073	.00105	.00161	
Per hundred filters	.40	.50	.75	

14192. **Filter Paper, Munktel's No. 1 F.** In sheets, 480 x 480 mm.

Per hundred sheets \$4.00

14194. **Filter Paper, Munktel's No. 2.** A pure, white linen paper of medium thickness; rapid in filtration. A superior paper for laboratory use.

Diameter, mm.	55	70	90	110
Ashes, gram	.00018	.00030	.00051	.00074
Per hundred filters	.10	.13	.20	.26
Diameter, mm.	125	150	185	
Ashes, gram	.00095	.00138	.00209	
Per hundred filters	.31	.40	.53	



14212

14196. Filter Paper, Munktell's No. 2. In sheets, 480 x 480 mm.
Per hundred sheets \$3.20

14198. Filter Paper, S. & S. No. 575. Thin, hardened filters; especially adapted to use with filter pumps, and suitable for filtration of caustic liquids and strong acids.

Diameter, mm.	40	55	70	90	110	125	150
Per hundred filters	.48	.60	.64	.96	1.15	1.30	1.50
Diameter, mm.	185	240	270	320	385	500	
Per hundred filters	2.00	3.00	4.00	4.90	6.40	10.40	

14200. Filter Paper, S. & S. No. 588. Folded filters.

Diameter, mm.	125	150	185	240	320	385	500
Per hundred filters	.36	.45	.55	.80	1.30	1.70	

14202. Filter Paper, S. & S. No. 589. "Black Ribbon." Washed with drochloric and hydrofluoric acid. Filters quickly and retains finest precipitates; prepared especially for use in micro laboratories. 35

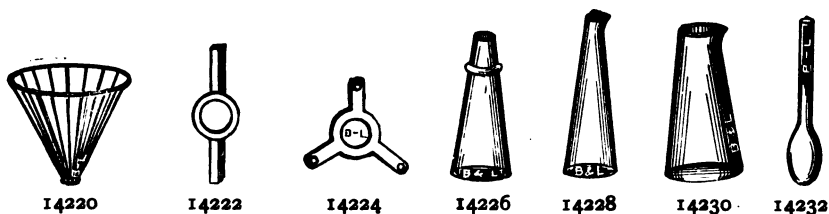
Diameter, mm.	55	70	90	110	
Ashes, gram	.00004	.00007	.00011	.00017	.00
Per hundred filters	.60	.65	.95	1.15	1

14204. Filter Paper, S. & S. No. 589. "White Ribbon." Washed with drochloric and hydrofluoric acid. Filters quickly; retains precipitates and leaves only the smallest amount of ashes.

Diameter, mm.	55	70	90	110	125
Ashes, gram	.00004	.00007	.00011	.00017	.00021
Per hundred filters	.60	.65	.95	1.15	1.30

14206. Filter Paper, S. & S. No. 590. Washed to the utmost limit in drochloric and hydrofluoric acid.

Diameter, mm.	55	70	90	110	125	4
Ashes, gram	.00002	.00003	.00005	.00007	.00009	.0000
Per hundred filters	.75	.80	1.20	1.45	1.60	



14208. Filter Paper, S. & S. No. 595. Thin, white paper; in packages of 100 filters.

Diameter, mm.	55	70	90	110	125	150
Per hundred filters	.12	.15	.20	.22	.25	.30
Diameter, mm.	185	240	270	320	385	
Per hundred filters	.40	.70	.95	1.10	1.35	

14210. Filter Paper, S. & S. No. 595. In sheets, 470 x 540 mm.

Per hundred sheets \$2.00

14212. Filter Paper, S. & S. No. 597. Thick, white paper; in packages of 100 filters.

Diameter, mm.	55	70	90	110	125	150
Per hundred filters	.18	.20	.25	.30	.35	.40
Diameter, mm.	185	240	270	320	385	500
Per hundred filters	.55	.80	1.10	1.30	1.70	2.80

14214. Filter Paper, S. & S. No. 597. In sheets, 580 x 580 mm.

Per hundred sheets \$3.90

14216. Filter Paper, S. & S. No. 600. So-called drying paper. Recommended for drying salts and botanical preparations. Size, 340 x 420 mm.

Per hundred sheets \$1.20

Filter Paper. So-called bibulous paper. Heavy white paper with rough surfaces. Specially recommended for filtering culture media. This paper should not be confused with common bibulous paper. In sheets, 400 x 400 mm.

Per hundred sheets \$2.50

Filter Plates. See PLATES.

Filter Pumps. See AIR PUMPS.

Filter Racks. For holding the filter paper away from the sides of the funnel. Made of galvanized iron wire and rubber ring. May be used to serve as squeezer.

14192. Filter	Diameter, mm.	125	175	225	300
	Each	.30	.40	.50	.75

14194. Filter Rings. Of porcelain. Two arms. Each \$0.20

Filter Rings. Three arms. Each \$0.35

Filter Stands. See SUPPORTS.

Filter Tubes. See TUBES.

Flasks, Assay. Bohemian Glass.

	Capacity, cc.	50	100	250
Each		.15	.18	.20



14234



14236



14238



14240

14228. Flasks, Assay. Bohemian Glass. Conical; high form.

Capacity, cc.	50	100	250	500
Each	.10	.15	.20	.25

14230. Flasks, Assay. Bohemian Glass. With lip; for precipitation and filtration.

Capacity, cc.	50	100	250	500
Each	.10	.15	.20	.25

14232. Flasks, Assay. Bohemian Glass. French form; with long neck.

Capacity, cc.	25	50	100
Each	.10	.12	.15

Flasks, Bacteriological. See FLASKS, CULTURE.

14234. Flasks, Boiling. Baloc Glass. Flat bottom; vial mouth.

Capacity, cc.	25	50	100	150	200	250
Each	.07	.08	.09	.10	.12	.14
Capacity, cc.	300	400	500	750	liters 1	
Each	.16	.18	.20	.25	.30	
Capacity, liters	1½	2	3	4	8	
Each	.40	.50	.75	1.00	1.50	

14236. Flasks, Boiling. Jena Glass. Flat bottom; vial mouth.

Capacity, cc.	50	100	200	300	400	500
Each	.12	.15	.20	.25	.30	.35
Capacity, cc.	700	liters 1	1½	2	3	
Each	.40	.50	.60	.75	1.00	
Capacity, liters	5	6	8	10	15	
Each	1.25	1.75	2.25	3.00	4.00	

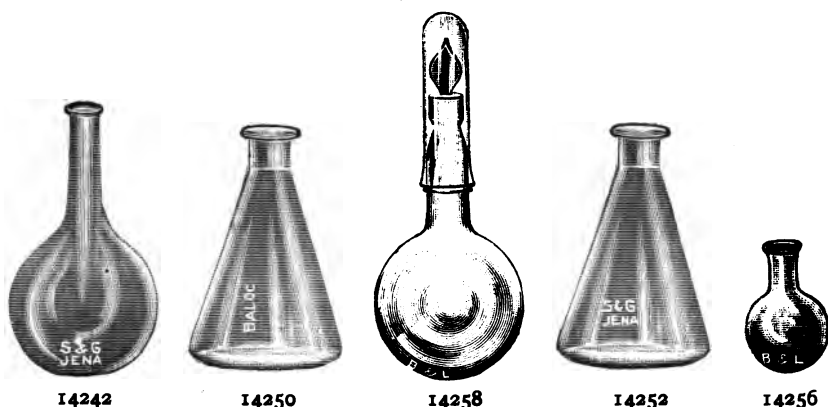
14238. Flasks, Boiling. Baloc Glass. With heavy ring neck to bear corking.

Capacity, cc.	25	50	100	150	200
Each	.07	.08	.09	.10	.12
Capacity, cc.	250	300	400	500	750
Each	.14	.16	.18	.20	.25
Capacity, liters	1	1½	2	3	4
Each	.30	.40	.50	.75	1.00

14240. Flasks, Boiling. Baloc Glass. Round bottom.

Capacity, cc.	50	100	250	500	liters 1	2	4
Each	.08	.10	.14	.20	.30	.50	1.00

Any of the above flasks furnished with ground label for pencil notes.



14242. Flasks, Boiling. Jena Glass. Round bottom; vial mouth.

Capacity, cc.	50	100	200	300	400
Each	.12	.15	.20	.25	.30
Capacity, cc.	500	700	1000	1500	
Each	.35	.40	.50	.60	

14244. Flasks, Boiling. Jena Glass. Round bottom; ring neck.

Capacity, cc.	50	100	200	300	400	500
Each	.15	.18	.20	.25	.30	.35
Capacity, cc.	700	liters 1	1½	2	3	
Each	.40	.50	.60	.70	.95	
Capacity, liters	5	6	8	10	15	
Each	1.20	1.75	2.25	3.00	4.00	

14246. Flasks, Boiling. Jena Glass. Round bottom; short ring neck.

Capacity, cc.	50	100	200	300	400	500
Each	.15	.18	.20	.25	.30	.35
Capacity, cc.	700	liters 1	1½	2	3	
Each	.40	.50	.60	.70	.85	
Capacity, liters	5	6	8	10	15	
Each	1.20	1.75	2.25	3.00	4.00	

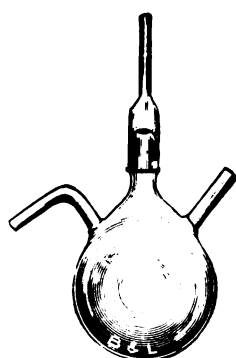
14248. Flasks, Erlenmeyer Form. Baloc Glass. Narrow mouth.

Capacity, cc.	25	50	100	150	200
Each	.07	.08	.09	.10	.12
Capacity, cc.	250	300	400	500	750
Each	.14	.16	.18	.20	.25
Capacity, liters	1	1½	2	3	4
Each	.30	.40	.50	.75	1.00

14250. Flasks, Erlenmeyer Form. Baloc Glass. Wide mouth.

Capacity, cc.	25	50	100	150	200	250	300	
Each	.07	.08	.09	.10	.12	.14	.16	
Capacity, cc.	400	500	750	liters 1	1½	2	3	4
Each	.18	.20	.25	.30	.40	.50	.75	1.00

Any of the above flasks furnished with ground label for pencil notes.



14262



14260



14264



14268



14266 A



14266 B



14266 C

14252. Flasks, Erlenmeyer Form. Jena Glass.

Capacity, cc.	50	100	150	200	300
Each	.10	.12	.15	.18	.20
Capacity, cc.	450	600	850	1100	2000
Each	.25	.35	.40	.50	.60

14254. Flasks. Extra heavy glass; flat bottom; vial mouth; for wash bottles.

Capacity, cc.	150	250	500	750	1000
Each	.10	.15	.20	.25	.30

14256. Flasks, Carbonic Acid. Light; low form; extra wide mouth.

Capacity, cc.	25	50	100
Each	.10	.12	.15

14258. Flasks, Culture, Billing's. Of clear white glass; with stopper and cap. For gelatine and serum. (See illustration, page 202.)

Capacity, cc.	100	250	500
Each	.60	.75	1.00

14260. Flasks, Culture, Chamberlain's (or Pasteur's). For fluids; with cap ground on.

Capacity, cc.	50	100	200
Each	.30	.40	.60

14262. Flasks, Culture, Chamberlain's. (or Pasteur's). With two side necks.

Capacity, cc.	50	100	200
Each	.75	.90	1.20

Any of the above flasks furnished with ground label for pencil notes.



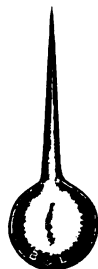
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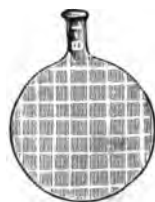
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14288



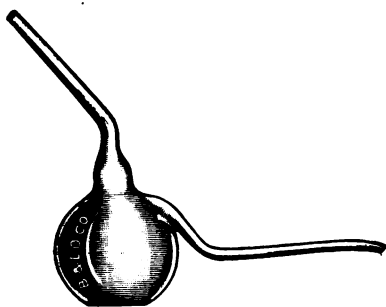
14284



14282



14272



14276



14274

14264. Flasks, Culture, Erlenmeyer's (or Koch's). For bread and gelatine.

Capacity, cc.	50	75	100
Each	.07	.08	.09

14266. Flasks, Culture, Fernbach's Antitoxine. For diphtheria cultures. Of best clear white glass. Capacity, 2 liters. (See page 203.)

Style	A	B	C
Each	1.50	3.00	2.50

14268. Flasks, Culture, Freudreich's. With cap ground on. (See page 203.)

Capacity, cc.	25	50	100	200
Each	.35	.40	.50	.75

14270. Flasks, Culture, Freudreich's. With side neck.

Capacity, cc.	25	50	100	200
Each	.40	.50	.60	.85

14272. Flasks, Culture, Listers'. For serum.

Capacity, cc.	500	750	1000
Each	.75	1.00	1.25

14274. Flasks, Culture, Miquel's. With flat bottom and ground-on cap; for use with bacterial counting apparatus.

Capacity, cc.	50	75	100
Each	.35	.40	.45

14276. Flasks, Culture, Pasteur's Pipette.

Capacity, cc.	125	250	500	1000
Each	.35	.45	.60	.80

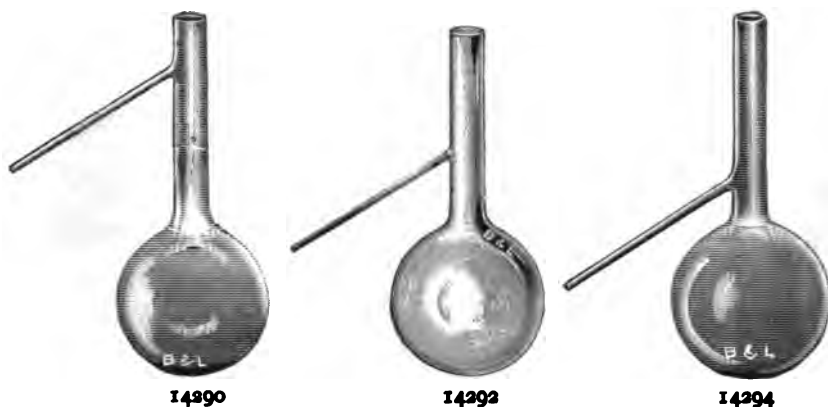
14278. Flask, Culture, Roszahegzi's. Plain; with thin parallel walls.

Each \$0.25

14280. Flask, Culture, Roszahegzi's. Graduated in square centimeters over one-half of the surface.

Each \$0.75

Any of the above flasks furnished with ground label for pencil notes.



14282. Flask, Culture, Roszahegzi's. Graduated in square centimeters over entire surface. **Each \$0.75**

14284. Flask, Culture, Sternberg's. For serum; a thin flask of clearest white glass, with neck drawn to a point. Capacity, 25 cc. **Each \$0.10**

Flasks, Digesting and Dissolving. See GAS APPARATUS, KJELDAHL.

Flasks, Distilling, Copper. See RETORTS, COPPER.

14286. Flasks, Distilling (or Alembics). Of thin blown glass; head and flask in one piece. (See illustration, page 204.)

Capacity, cc.	125	250
Each	.55	.80

14288. Flasks, Distilling (or Alembics). With head ground air-tight into flask. (See illustration, page 204.)

Capacity, cc.	125	250
Each	.80	1.00

14290. Flasks, Distilling. Baloc Glass. With side tube high on neck.

Capacity, cc.	30	60	100	250	500	1000	2000
Each	.15	.20	.25	.30	.40	.55	.75

14292. Flasks, Distilling. Baloc Glass. With side tube at center of neck.

Capacity, cc.	30	60	100	250	500	1000	2000
Each	.15	.20	.25	.30	.40	.60	.75

14294. Flasks, Distilling. Baloc Glass. With side tube low on neck.

Capacity, cc.	30	60	100	250	500	1000	2000
Each	.15	.20	.25	.30	.40	.60	.75

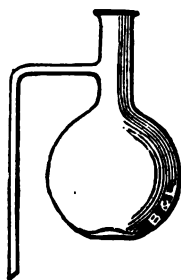
14295. Flasks, Distilling. Baloc Glass. With side tube, 400 mm. long, at center of neck. (See illustration, page 206.)

Capacity, cc.	30	60	100	250	500	1000	2000
Each	.20	.25	.30	.35	.50	.60	.85

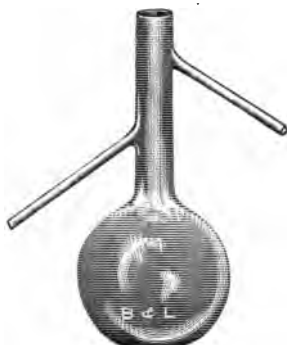
14296. Flasks, Distilling. Jena Glass. With side tube.

Capacity, cc.	50	100	200	500	1000
Each	.25	.30	.35	.55	.80

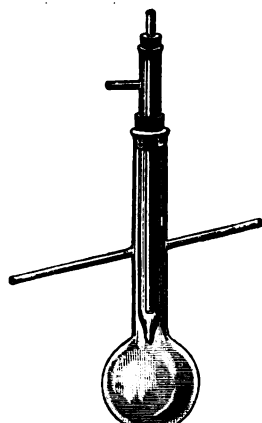
Any of the above flasks furnished with ground label for pencil notes.



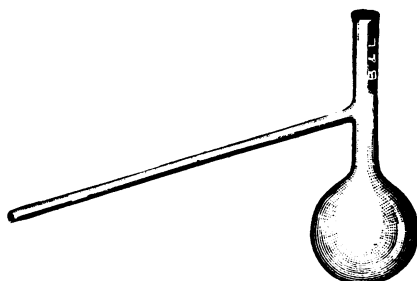
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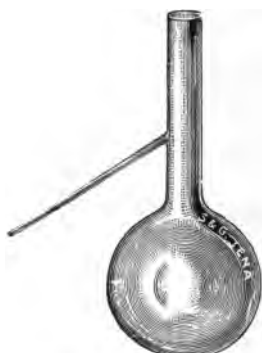
14298



14302



14295



14296

14298. Flasks, Distilling, Hoffmann's. Baloc Glass. For distilling in a gas current.

Capacity, cc.	30	60	125	250	500	1000
Each	.18	.20	.25	.35	.50	.80

14300. Flasks, Distilling. Baloc Glass. With side tube bent at right angle.

Capacity, cc.	125	250	500
Each	.25	.40	.55

14302. Flasks, Distilling, Kreuzler's. Baloc Glass. With inside condenser.

Capacity, cc.	250	500	1000
Each	.60	.90	1.25

14304. Flasks, Distilling, Ladenburg's. Baloc Glass. With bulbed neck.

Capacity, cc.	100	250	500	1000
Each	.40	.60	.80	1.10

14306. Flasks, Distilling, Ladenburg's New Form. Baloc Glass. (See page 207.)

Capacity, cc.	100	200	250	500
Bulbs	3	3	4	4
Each	2.30	2.60	3.00	3.50

14308. Flasks, Distilling, Lunge's. Baloc Glass. (See page 207.)

Capacity, cc.	60	125	250	500
Each	.40	.60	.70	.90

Any of the above flasks furnished with ground label for pencil notes.



14310. Flasks, Filtering, Bunsen's. Conical shape; of heavy white glass.

Capacity, cc.	250	500	750	1000	2000
Each	.25	.35	.45	.60	1.05

14312. Flasks, Filtering, Bunsen's. With side neck.

Capacity, cc.	250	500	750	1000	2000
Each	.40	.45	.60	.80	1.25

14314. Flasks, Filtering. Round form; with side neck.

Capacity, cc.	250	500	1000
Each	.35	.45	.80

14316. Flasks, Filtering. Water bottle shape; with side neck.

Capacity, cc.	250	500	750	1000	2000
Each	.45	.70	.90	1.05	1.30

14318. Flasks, Filtering. With funnel ground into neck and with side tube.

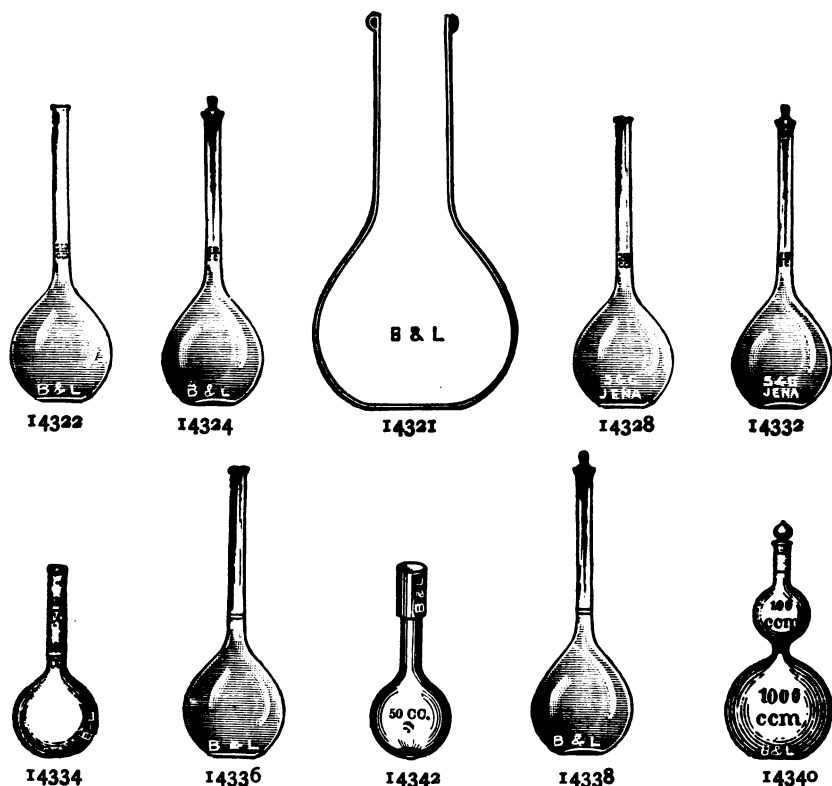
Capacity, cc.	250	500	1000	2000
Each	1.75	2.00	2.75	3.50

Flasks, Generating (So-called Gas Bottles). See GAS BOTTLES.

14320. Flasks, Joliet. Heavy glass; for use in iron and steel analysis.

Capacity, cc.	500	1000	2000
Each	.30	.45	.60

Any of the above flasks furnished with ground label for pencil notes.



- 14321. Flask, Johnson's.** Designed by C. M. Johnson. Especially intended for dissolving steel in sulphur determinations. A good flask for general use. Has fire-finish ring-neck of uniform diameter, taking No. 6 rubber stopper. Capacity, 275 cc. to base of neck; height, 165 mm. **Each \$0.25**

Flasks, Kjeldahl. See GAS APPARATUS, KJELDAHL.

Flasks, Precipitating. See BEAKERS, PHILLIP'S.

FLASKS, VOLUMETRIC

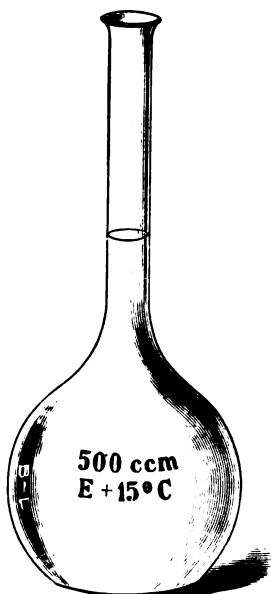
FOR GENERAL LABORATORY WORK

Our volumetric flasks for routine laboratory work are of superior quality, being made under our own supervision and carefully tested. They are adjusted by accurate measurement with water at 15° C.

- 14322. Flasks, Volumetric (or Liter Flasks).** Accurately graduated, with one mark on neck. Graduated for pouring out.

Capacity, cc.	5	10	25	50	100
Each	.10	.12	.18	.20	.25
Capacity, cc.	200	250	300	500	
Each	.30	.40	.45	.50	
Capacity, liters,	1	2	3	6	
Each	.65	1.00	1.60	3.00	

Any of the above flasks furnished with ground label for pencil notes.



14344, 14346



14348, 14350

14324. Flasks, Volumetric. With ground glass stopper. (See page 208.)

Capacity, cc.	5	10	25	50	100
Each	.18	.20	.25	.30	.35
Capacity, cc.	200	250	300	500	
Each	.45	.50	.55	.60	
Capacity, liters	1	2	3	6	
Each	.80	1.20	2.00	4.00	

14326. Flasks, Volumetric. Jena Glass. Without graduation; the indicated capacity falls in the neck.

Capacity, cc.	50	100	125	200	250	500	1000
Each	.22	.23	.24	.30	.40	.55	.70

14328. Flasks, Volumetric. Jena Glass. Graduated. (See illustration, page 208.)

Capacity, cc.	50	100	125	200	250	500	1000
Each	.30	.32	.35	.42	.55	.75	1.00

14330. Flasks, Volumetric. Jena Glass. With ground glass stopper; without graduation; the indicated capacity falls in the neck.

Capacity, cc.	125	250	500	1000
Each	.50	.66	.95	1.15

14332. Flasks, Volumetric. Jena Glass. Graduated; with glass stoppers.

Capacity, cc.	125	250	500	1000
Each	.70	.95	1.35	1.55

14334. Flasks, Volumetric. So-called Sugar Flasks; with two graduations. Marked capacity, cc.

	50 and 55	100 and 110	200 and 220
Each	.28	.35	.50

Any of the above flasks furnished with ground label for pencil notes.

- 14336. Flasks, Volumetric.** With two marks on neck, for receiving and delivering exact quantities. (See illustration, page 208.)

Capacity, cc.	50	100	250	500	1000
Each	.25	.30	.50	.60	.90

- 14338. Flasks, Volumetric.** With ground glass stopper. (See page 208.)

Capacity, cc.	50	100	250	500	1000
Each	.30	.35	.55	.75	1.05

- 14340. Flasks, Volumetric, Giles'.** For making normal solutions. (See page 208.)

Capacity, cc.	50/5	100/10	250/25	500/50	1000/100	2000/200
Each	.60	.70	.95	1.40	1.80	2.75

- 14342. Flasks, Volumetric, Kohlrausch's.** Graduated; for saccharometric polarization.

Capacity, cc.	50	100	200
Each	.30	.35	.55

FLASKS, VOLUMETRIC

FOR LABORATORY WORK OF PRECISION

These flasks are graduated by weight on delicate balance. They are standardized to meet the requirements of the German Imperial Commission. A certificate of accuracy is supplied with each instrument. (See illustrations, page 209.)

- 14344. Flasks, Volumetric.** Without stopper; adjusted for receiving.

Capacity, cc.	25	50	100	200	250	500	1000	2000
Each	.35	.40	.50	.60	.80	1.00	1.30	2.00

- 14346. Flasks, Volumetric.** Without stopper; adjusted for delivering.

Capacity, cc.	25	50	100	200	250	500	1000	2000
Each	.35	.40	.50	.60	.80	1.00	1.30	2.00

- 14348. Flasks, Volumetric.** With ground glass stopper; adjusted for receiving.

Capacity, cc.	25	50	100	200	250	500	1000	2000
Each	.50	.60	.70	.90	1.00	1.20	1.60	2.40

- 14350. Flasks, Volumetric.** With ground glass stopper; adjusted for delivering.

Capacity, cc.	25	50	100	200	250	500	1000	2000
Each	.50	.60	.70	.90	1.00	1.20	1.60	2.40

We will supply these flasks (on import orders only, and at higher prices) tested by the German Imperial Commission, whose endorsement of accuracy is stamped upon each instrument. Prices on application.

Floats, Erdmann's. See BURETTE FLOATS.

Foil. See PLATINUM AND TIN.

- | | | |
|--|------|--------|
| 14352. Forceps. Of brass; straight. | Each | \$0.15 |
| 14354. Forceps. Nickel plated. | Each | \$0.15 |
| 14356. Forceps. Of brass; bent. | Each | \$0.15 |
| 14358. Forceps. Nickel plated. | Each | \$0.15 |
| 14360. Forceps. Of brass; with ivory tips. | Each | \$0.70 |
| 14362. Forceps. Nickel plated. | Each | \$0.70 |
| 14364. Forceps (Goosenecks). Of brass, nickel plated. Will not corrode. | | |
| Length, 150 mm. | Each | \$0.45 |



14364



14356



14376



14360



14366



14368



14370



14372

14366. Forceps. Of steel; plain.

Length, mm.	75	100	125	150
Each	.08	.08	.10	.18

Forceps, Dissecting. See DISSECTING INSTRUMENTS.

Forceps, Platinum. See PLATINUM WARE.

Fractional Distilling Flasks and Tubes. See FLASKS AND TUBES.

Freezing Apparatus. See AMMONIA CONDENSATION APPARATUS.

14368. Funnels, Agate Nickel Steel.

Capacity (approx.), cc.	250	500	1000	2000	4000
Each	.40	.50	.60	.70	.90

14370. Funnels. Agateware. Flint enameled; acid proof.

Capacity (approx.), cc.	250	500	1000	2000	4000
Each	.50	.60	.70	.90	1.05

14372. Funnels, Copper.

Capacity, cc.	125	250	500	1000	2000
Each	.50	.65	.75	.95	1.25

14376. Funnels. Of clear white glass; plain; with stem ground to point; angle 60°.

Diameter, mm.	25	30	40	50	65	75	90	100
Each	.07	.07	.07	.09	.10	.12	.14	.16
Diameter, mm.	120	150	170	200	225	250	300	
Each	.18	.25	.30	.40	.55	.75	1.00	



14386



14392



14390

14378. **Funnels.** With edge ground even; angle 60° .

Diameter, mm.	25	30	40	50	65	75	90	100
Each	.08	.08	.08	.10	.12	.14	.16	.18
Diameter, mm.	120	150	170	200	225	250	300	
Each	.20	.25	.30	.45	.65	.85	1.10	

14380. **Funnels.** Of clear white glass; exact angle 60° . Known as Bunsen's funnels, having very thin and extra long stem for use with rubber stopper in filtering flask.

Diameter, mm.	25	40	50	65	75
Each	.08	.08	.10	.12	.14
Diameter, mm.	90	100	110	120	150
Each	.16	.18	.20	.24	.28

14382. **Funnels.** With edge ground even.

Diameter, mm.	25	40	50	65	75
Each	.09	.10	.11	.12	.15
Diameter, mm.	90	100	110	120	150
Each	.18	.20	.22	.24	.30

14386. **Funnels.** Of clear white glass; ribbed; for rapid filtration; with stem ground to point; angle 60° .

Diameter, mm.	50	65	80	100	120	150	170	200
Each	.09	.10	.12	.15	.18	.25	.28	.40

14388. **Funnels.** With edge ground even; angle 60° .

Diameter, mm.	50	65	80	100	120	150	170	200
Each	.10	.12	.14	.18	.20	.25	.30	.45

14390. **Funnels.** Of clear white glass; fluted; the most rapid filtering funnel made.

Diameter, mm.	70	100	160	200
Each	.30	.45	.70	1.40

14392. **Funnels.** Of clear white glass; with bulb; for filtering through glass wool.

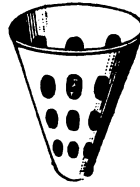
Diameter, mm.	100	150	200
Each	.30	.45	.70



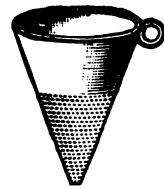
14394



14396



14398



14400



14404



14406



14408



14410

14394. Funnels, Porcelain. Plain; with handle.

Diameter, mm.	90	125	170
Each	.35	.60	1.00

14396. Funnels, Porcelain. Ribbed; with handle.

Diameter, mm.	90	125	170
Each	.45	.75	1.50

14398. Funnels, Porcelain. With large oval openings in sides.

Diameter, mm.	100	120	150
Each	.35	.50	1.00

14400. Funnels, Porcelain. With perforated sides.

Diameter, mm.	90	125	160
Each	.45	.65	1.20

14402. Funnels, Porcelain. Small size; to be used as filter cones.

Diameter, mm.	45	65
Each.	.25	.35

14404. Funnels, Porcelain, Buchner's. With fixed, perforated, porcelain plate.

Diameter, mm.	50	65	80	100	125	150	200
Each	.70	.90	1.05	1.25	1.75	2.10	2.50

14406. Funnels, Porcelain, Hirsch's. With fixed, perforated, porcelain plate.

Diameter, mm.	50	70	90	110	125	140	160
Each	.45	.60	.75	1.00	1.25	1.75	2.50

14408. Funnels, Rubber. Vulcanized.

Capacity, cc.	100	250	500	1000	2000
Each	.35	.45	.60	.75	2.00

14410. Funnels, Tin.

Capacity, cc.	125	250	500	1000	2000	4000
Each	.10	.12	.15	.20	.25	.40



I4412



I4422



I4420



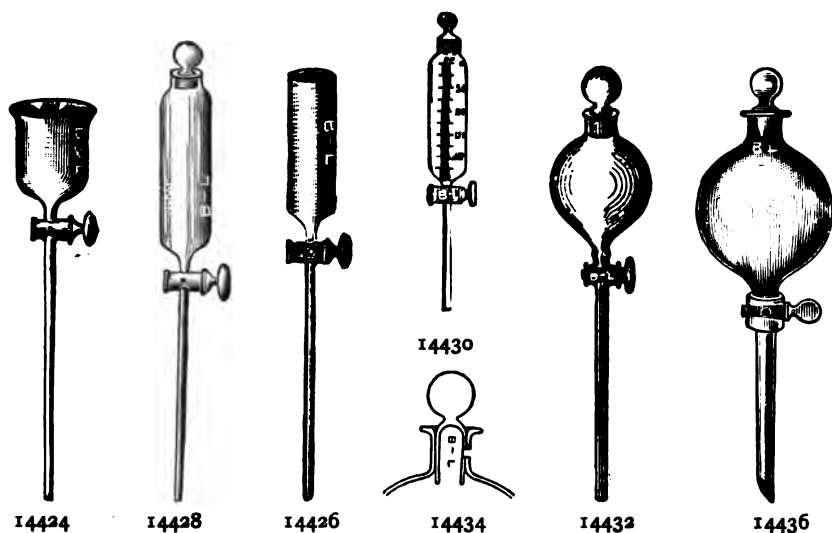
I4416, I4418



I4414

- I4412. Funnel, Hot Water.** Of heavy polished copper; double wall; for hot filtration. On three iron legs. **Each \$4.50**
- I4414. Funnel, Hot Water.** In Bunsen ring burner attached to support. **Each \$4.50**
- I4416. Funnel, Hot Water.** Of tin; double wall. For hot filtration. (According to Plantamaur.) **Each \$2.00**
- I4418. Funnel, Hot Water.** Of copper. **Each \$3.50**
- I4420. Funnel, Hot Water or Steam.** For filtering inflammable liquids. Complete as illustrated. **Each \$4.50**
- I4422. Funnels, Separatory.** Of clear white glass; angle 60°; stem ground to point.

Diameter, mm.	100	125	150	180	200	240
Each	1.50	2.00	2.25	2.50	3.00	3.50



14424. Funnels, Separatory. Open top; bell shape.

Capacity, cc.	50	75	100
Each	.80	1.00	1.25

14426. Funnels, Separatory. Open top; cylindrical.

Capacity, cc.	30	50	100	150	200	250
Each	.90	1.00	1.10	1.35	1.50	1.75

14428. Funnels, Separatory. With ground glass stopper.

Capacity, cc.	30	50	100	150	200	250
Each	1.00	1.15	1.25	1.50	1.75	2.00

14430. Funnel, Separatory. Cylindrical; graduated. Has glass stopper with air-vent. Capacity, 100 cc. **Each \$1.60**

14432. Funnel, Separatory. Pear shape; with ground glass stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Each	.90	1.00	1.20	1.50	1.80	2.25	2.60

14434. Funnel, Separatory. Style 14432. With air-vent in stopper.

Capacity, cc.	30	60	125	250	500	1000	2000
Each	1.10	1.20	1.45	1.80	2.10	2.55	3.00

14436. Funnels, Separatory. Heavy glass; globe shape; with glass stopper.

Capacity, cc.	250	500	1000	2000	4000
Each	2.00	2.25	2.50	3.00	4.00

14438. Funnel, Separatory. For ether separation in nickel determinations. The outlet stem is moderately long and of small caliber so as to hold a column. Specially designed for use in iron and steel laboratories. Capacity, 160 cc. (See illustration, page 216.)

Each \$2.00

14440. Funnels, Separatory, Squibb's. With ground glass stopper. (See page 216.)

Capacity, cc.	125	250	500
Each	1.25	2.00	2.60



14438



14440



14444



14446



14442



14448



14450



14452



14454



14456



14458



14460

14442. Funnel, Separatory or Dropping, Walter's. For examining single drops. Capacity, 60 cc. Each \$1.30

14444. Funnels, Victor-Meyer. To suspend over evaporating dishes.

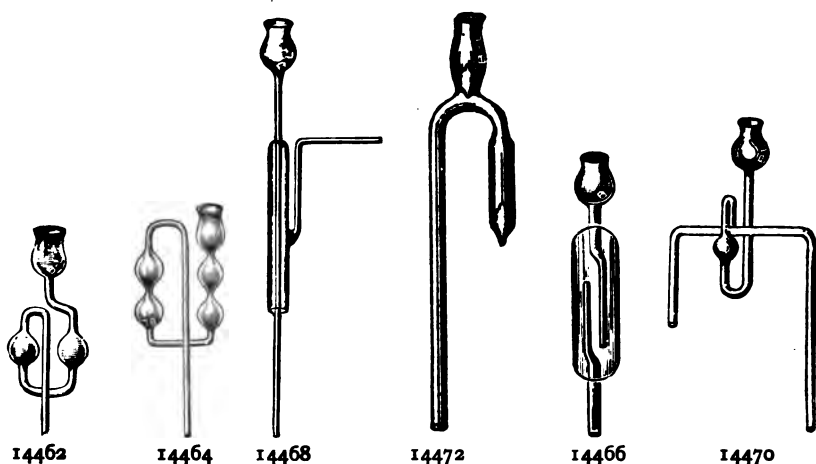
Diameter, mm.	160	200	260
Each	1.00	1.20	1.60

14446. Funnel Attachment. For use in filling test tubes, flasks, etc. It avoids contact of fluid with the surface of vessel being filled, so that the latter remains clean for the insertion of cotton plug.

Each \$0.50

14448. Funnel Tubes. Straight; conical top.

Length, mm.	200	250	300	400
Each	.08	.10	.12	.14



14450. Funnel Tubes. Straight; thistle top.

Length, mm.	200	250	300	400
Each	.05	.06	.07	.08

14452. Funnel Tubes. With loop; conical top.

Length, mm.	200	300	400
Each	.16	.18	.22

14454. Funnel Tubes. With loop; thistle top.

Length, mm.	200	300	400
Each	.15	.16	.20

14456. Funnel Tube. With loop; length 300 mm. One bulb; conical top.

Each \$0.20

14458. Funnel Tube. One bulb; thistle top.

Each \$0.20

14460. Funnel Tube. Two bulbs; thistle top.

Each \$0.25

14462. Funnel Tube. Two bulbs near top.

Each \$0.25

14464. Funnel Tube. Four bulbs; thistle top.

Each \$0.30

14466. Funnel Tube, Babo's.

Each \$0.60

14468. Funnel Tubes, Vogel's.

Length, mm.	200	300	400
Each	.40	.45	.50

14470. Funnel Tube, Welter's.

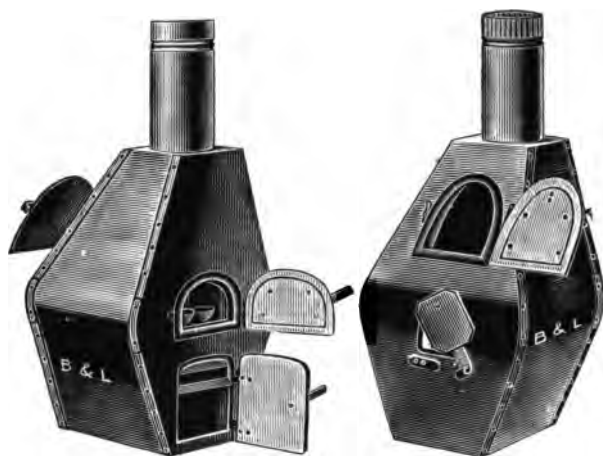
Each \$0.65

14472. Funnel Tubes, Welter's. With two valves.

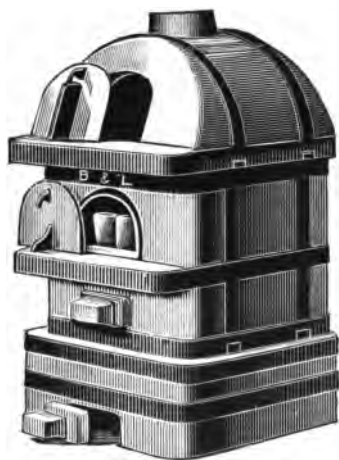
Each \$0.80

14474. Furnace, Assay, Bosworth's. Made of fire clay; in three sections securely bound with heavy iron bands. Its construction is such that it is less liable to crack than other furnaces. Heats the muffle quickly and evenly. (See illustration, page 218.)

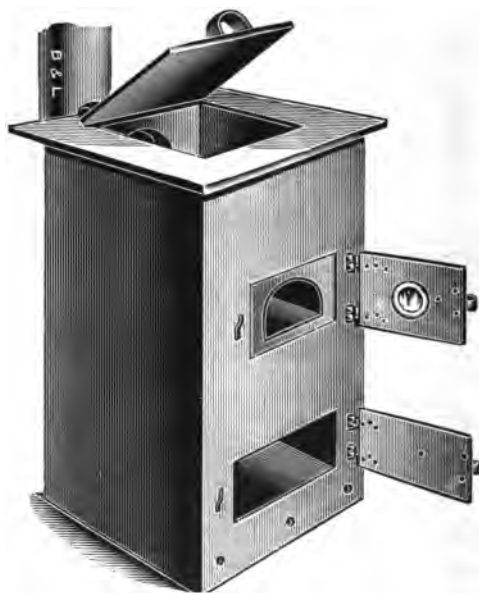
Size of muffle, mm.	200 x 350	225 x 375	250 x 400
Each, with 1 muffle, Net	35.00	40.00	40.00



14478



14474

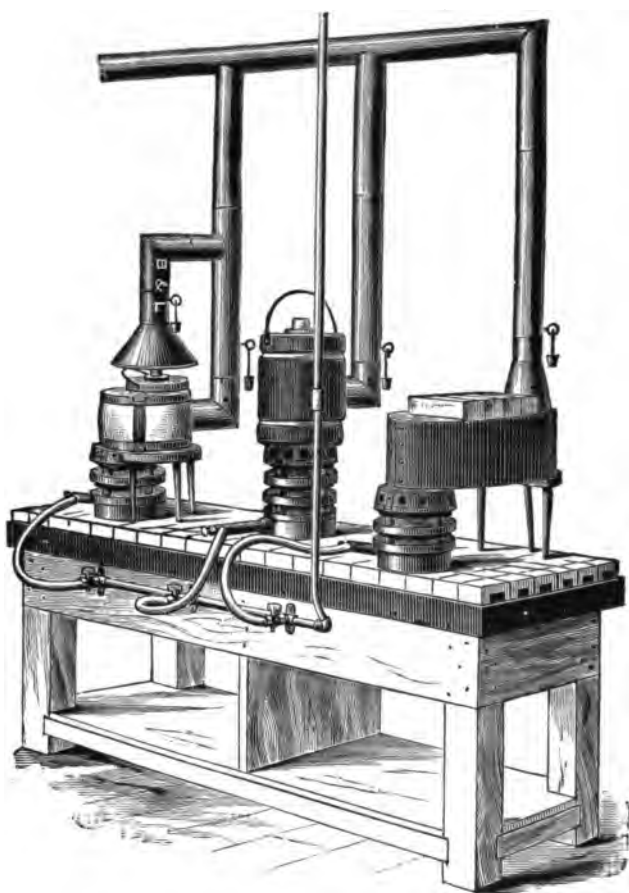


14476

14476. Furnace, Assay, Brown's. Made of fire clay and heavy sheet iron. Can be used for both muffle and crucible work.

Height, mm.	725	900
Width, mm.	400	525
Depth, mm.	350	450
Size of muffle, mm.	300 x 150 x 100	375 x 225 x 150
Weight, boxed, kilos	75	150
Each, Net	20.00	35.00

14478. Furnace, Assay, "Jackass." Made of fire clay, in one piece, and securely bound with steel. Doors asbestos lined. This is a very complete and satisfactory portable furnace.



14482

Number	1	2
Size of muffle, mm.	150 x 300 x 100	200 x 300 x 125
Weight, kilos	50	70
Each, with one muffle, Net	20.00	25.00

14480. Furnace, Assay, "Jackass." Extra grate for No. 14478.

Each, Net \$1.00

14482. Furnace, Assayer's Combination. Designed by Walter Lee Brown and fully described in his "Manual of Assaying Gold, Silver, Copper, and Lead Ores." Consists of three furnaces: The one on the left for roasting sulphurets; the center one for crucible fusions, it taking a plumbago crucible 100 mm. deep by 95 mm. diameter, and the one on the right for scorification and cupellation. Complete with plumbago fittings, chimney pipe, horizontal gas pipe and three 10 mm. taps, as illustrated, but without rubber tubing or bench.

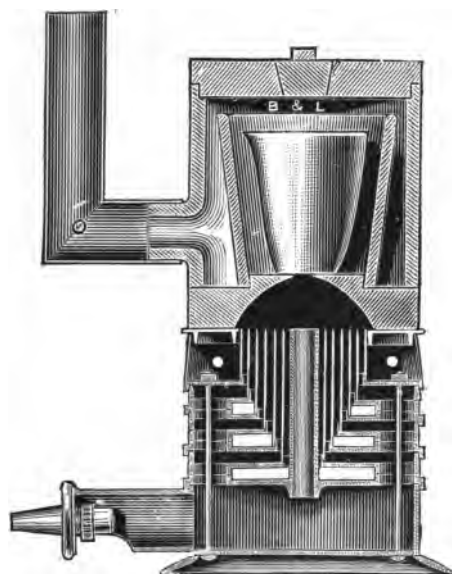
Each \$60.00

14484. Bench with fire brick top, for No. 14482.

Each \$30.00

14486. Extra taps, 10 mm., for No. 14482.

Each \$1.10



14488

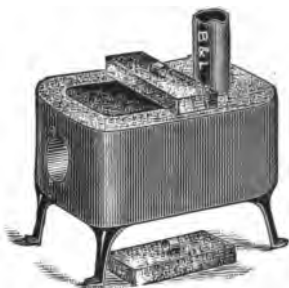
- 14488. Furnace, Crucible, Fletcher's.** This furnace will take crucibles up to 100 x 95 mm. holding about 3 kilos when full, and with a 12-mm. gas pipe and pressure of gas equal to 50 mm. of water, supplying about 15 meters per hour, will melt a crucible of gold, silver, or brass in about 30 minutes, and the same quantity of cast iron in about 60 minutes from the time the gas is lighted. Supplied with an improved burner giving a number of concentric flames. Furnace, with crucible 100 x 95 mm., cylinder, tongs, and 180 cm. of pipe. **Each \$19.20**
- 14490.** Plumbago crucibles, 100 x 95 mm., for No. 14488. **Each \$0.36**
- 14492.** Plumbago cylinders, for No. 14488. **Each \$1.20**
- 14494.** Fire clay casing, for No. 14488. **Each \$3.60**
- 14496.** Lid, for No. 14488. **Each \$1.07**
- 14498.** Grate, for No. 14488. **Each \$1.07**
- 14500.** Burner, for No. 14488. **Each \$9.60**
- 14502.** Wire gauze rings, for No. 14488. **Each \$0.30**
- 14504. Furnace, Crucible, Fletcher's.** This furnace consists of a simple pot for holding the crucible, with lid and a blowpipe burner, all mounted on a suitable cast iron base. The body is made of material which is only one-sixth the weight of fire clay, and has not one-tenth its conducting power for heat. It requires only seven to twelve minutes, depending upon the gas supply and air pressure, to fuse perfectly 250 grams of cast iron. The crucible holds 300 grams of gold. A 10-mm. pipe supplying about one-fourth cubic meter (10 cu. ft.) of gas per hour, and Blower No. 12588B or 12590B will produce sufficient blast for most purposes. Furnace, with one crucible 55 x 50 mm., without blower. **Each \$3.60**



14504



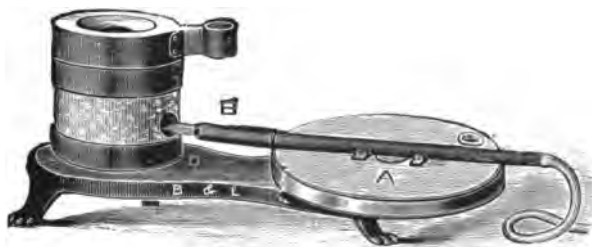
14528



14530



14516

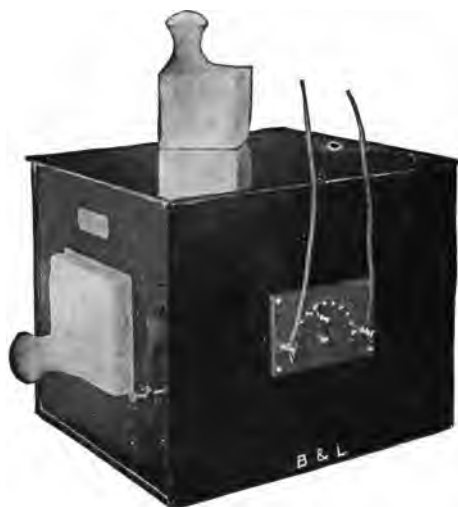


14520



14526

- | | | |
|---|------|--------|
| 14506. Furnace body, for No. 14504. | Each | \$0.90 |
| 14508. Furnace body and cover, for No. 14504. | Each | \$1.32 |
| 14510. Burner, for No. 14504. | Each | \$1.20 |
| 14512. Base, for No. 14504. | Each | \$1.08 |
| 14514. Crucibles, 55 x 50 mm., for No. 14504. | Each | \$0.24 |
| 14516. Furnace, Crucible, Fletcher's Improved. Of same construction as No. 14504, but with an improved gas burner of the same pattern as that used in the Perfected Injector Furnace, which is almost noiseless in action and is more economical than any gas burner heretofore used for heating furnaces. A 10-mm. gas supply pipe is required. Blower No. 12588B or 12590B is recommended with this furnace. Furnace, with one crucible 55 x 50 mm., without blower. | | |
| | Each | \$4.20 |



14531

- 14518.** Burner, for No. 14516. **Each \$1.70**
Other extra parts for No. 14516, see Nos. 14506 to 14514.

- 14520. Furnace, Crucible, Fletcher's Kerosene.** Burns refined petroleum or kerosene and is recommended as being fully equal in efficiency to the gas furnaces of similar construction. The burner is made on the principle of an atomizer, thus dispensing with a wick, and has oil and air regulators. Furnace, with one plumbago crucible 55 x 50 mm., without blower. (See page 221.) **Each \$5.40**

- 14522.** Kerosene burner, for No. 14520. **Each \$3.00**

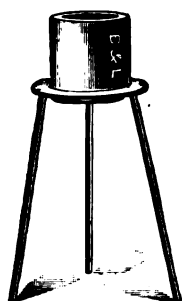
- 14524.** Plumbago crucibles, 55 x 50 mm., for No. 14520. **Each \$0.24**
Other furnace parts for No. 14520, see Nos. 15406, 15408, 15412.

- 14526. Furnaces, Crucible, Hoskins'.** Suitable for all kinds of crucible work; for melting assay charges, sample smelting charges, metals, etc. Round form. (See page 221.)

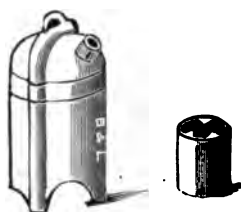
Number	1	2
Diameter, inside, mm.	100	125
Depth, inside, mm.	135	160
Each, Net	4.00	5.00

- 14528. Furnaces, Crucible, Hoskins'.** No. 3 furnace; long form, taking two crucibles. Length of chamber, 170 mm.; height, 120 mm.; width, 100 mm. **Each, Net \$7.00**

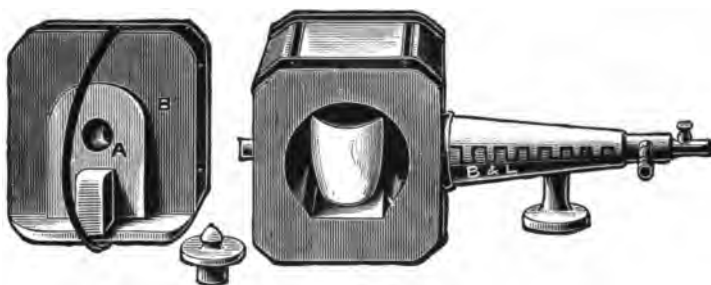
- 14530. Furnaces, Crucible, Hoskins'.** No. 4 furnace; long form, taking four crucibles. A very effective furnace for large quantities of work. Length of chamber, 200 mm.; height, 150 mm.; width, 165 mm. (See page 221.) **Each, Net \$12.00**



14532



14536



14542

14531. Furnace, Electric, Sauveur and Whiting. The uses to which the furnace may be put are many. For any experimental work where definite and constant high temperatures are desired, it is invaluable. It is particularly adapted to the heat treatment of metals, such as annealing, tempering, and hardening. It may also be used as a Combustion Furnace in chemical determinations, being especially well adapted to the rapid ignition of the silica residues in iron and steel combustion. Where available, we recommend the use of an electric current of 220 volts, though very satisfactory results may be obtained with lower voltage. **Each, Net \$95.00**

14532. Furnace, Erdmann's. For gas. Consists of a clay chimney on iron tripod. **Each \$0.50**

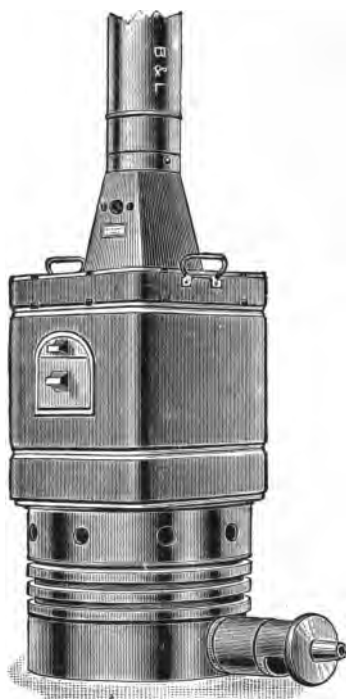
14534. Furnace, Erdmann's. With Bunsen burner. **Each \$1.00**

14536. Furnace, Hempel's. Made of clay.

Size	Small	Large
Each	1.00	2.00



14538



14550

14538. Furnace, Ladle. With Fletcher's solid flame heating burner for melting lead, tin, zinc, and their alloys. The burner is simple and safe, and works equally well with any gas supply available, giving speeds of working proportionate to quality of gas. The burner may be removed from the casing and used for other purposes. Capacity of burner, 1 cubic meter (30 cu. ft.) per hour. A 10-mm. gas supply pipe is required. **Each \$4.20**

14540. Furnace, Ladle. Same as No. 14538, but with cap-nut regulator for gasoline gas. **Each \$4.55**

14542. Furnace, Lecture and Experimental, Fletcher's. Specially designed for the lecture table. Works with the same burner as a draft or blast furnace at any temperature up to the fusion point of the casing. Adapted for crucibles, muffles, tubes, cupels, distillation by descension, treatment of refractory substances with gases of high temperature, small forgings, roasting ores, etc. When used as a blast furnace, as shown in left illustration, an empty crucible, 65 x 60 mm., can be raised to the fusing point of cast iron in two minutes from the time the flame is lighted. By turning the casing on one side, as shown in right illustration, the contents may be seen by a class while the furnace is working, and it can, in this position, be used for crucibles, muffles, combustion tubes, cupels,



or roasting, and with either draft or blast, according to the temperature required. Although not silent when in use at the highest power, a lecturer with a good voice can be heard while it is working. Crucibles larger than 60 x 62 mm. must not be used. Furnace, with one muffle and one crucible 60 x 62 mm., without blower. (See illustration, page 223.)

Each \$30.00

14544. Burner, only, for No. 14542. Each \$9.00

14546. Muffles, salamander, for No. 14542. Each \$1.20

14548. Muffles, fire clay, for No. 14542. Each \$0.60

14550. Furnaces, Muffle. For assaying, enameling, and all purposes where exact temperatures not exceeding the fusing point of copper are required. Burners are of same construction as No. 14488. Supplied with muffle, dome, crucible tongs, and 180 cm. of chimney pipe.

Muffle space, mm.	75 x 100 x 65	95 x 125 x 75
Gas pipe bore, mm.	12	18
Each	16.40	24.00
Muffle space, mm.	110 x 175 x 95	130 x 200 x 110
Gas pipe bore, mm.	25	25
Each	36.00	54.00

14552. Plumbago muffles, for No. 14550. Each \$1.20 \$1.50 \$1.80 \$3.00

14554. Plumbago domes, for No. 14550. Each \$1.20 \$1.50 \$1.80 \$3.00

14556. Chimney pipe, for No. 14550. Each \$0.42 \$0.48 \$0.55 \$0.72

14558. Furnaces, Muffle, Hoskins' Latest Design. For all kinds of muffle work. A length or two of stove pipe is required to create a draft through the muffle, or the furnace may be connected with a flue, in which case a damper must be put in the pipe. May be raised to a good heat for scorification in less than fifteen minutes.

Number	2	3
Size of muffle, mm.	200 x 120 x 75	250 x 150 x 100
Each, Net	10.00	15.00



14568



14568

14560. Muffles for furnaces No. 14558. Each, Net, No. 2, \$0.75; No. 3, \$1.00

14562. Furnace, Muffle and Crucible Combination. Hoskins' No. 1. Shown on the right as arranged for crucible furnace; on the left as arranged to take a muffle 150 x 90 x 65 mm. The change from crucible to muffle furnace is made by lifting off the cover and substituting the part with the muffle opening. A scorification or two cupellations may be made in this furnace with perfect satisfaction. Weight complete, 11 kilos. (See page 225.) Each, Net \$7.00

14564. Furnace No. 14562, with Blowpipe No. 14588, No. 2. Each, Net \$30.00

14566. Furnace No. 14562, with Blowpipe No. 14588, No. 3. Each, Net \$33.00

14568. Furnace, Muffle and Crucible Combination. Hoskins' No. 5. Takes one crucible 125 x 75 mm. and a muffle 150 x 90 x 65 mm. Length, 300 mm.; height, 400 mm.; width, 210 mm.; weight, complete, 15 kilos; packed, 20 kilos. Each, Net \$10.00

14570. Furnace, Muffle and Crucible Combination. Hoskins' No. 6. Takes four crucibles 125 x 75 mm. and a muffle 250 x 150 x 100 mm. Length, 500 mm.; height, 475 mm.; width, 300 mm.; weight, complete, 45 kilos; packed, 60 kilos. Each, Net \$20.00

Furnaces, Combustion. See COMBUSTION FURNACES.

14572. Furnace, Perfected Injector, Fletcher's. Combined crucible and muffle furnace. The body of the furnace is large enough to receive a crucible 165 x 110 mm., holding 6 kilos of metal. The cover has a projection on one side which will reduce the height of the cavity of the furnace some 50 mm., or to the proper size to receive the muffle or a crucible 100 mm. high. By reversing the cover a crucible 165 x 110 mm. may be used. The gas supply must be from a 12-mm., or still better, an 18-mm. pipe. A No. 12588B or 12590B foot blower should be used. Furnace, for gas, with one crucible 100 x 95 mm. and one muffle 165 x 90 x 70 mm., without blower. Each \$13.20

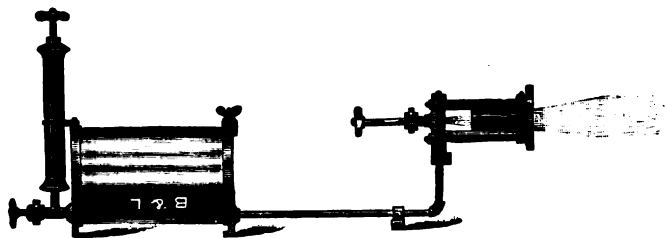
14574. Furnace, Perfected Injector, Fletcher's. Fire clay body, cover and two plugs, for No. 14572. Each \$9.00



14572, 14578



14580

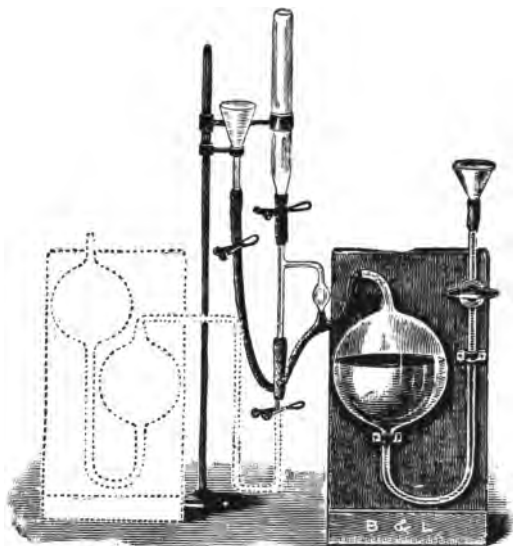


14588

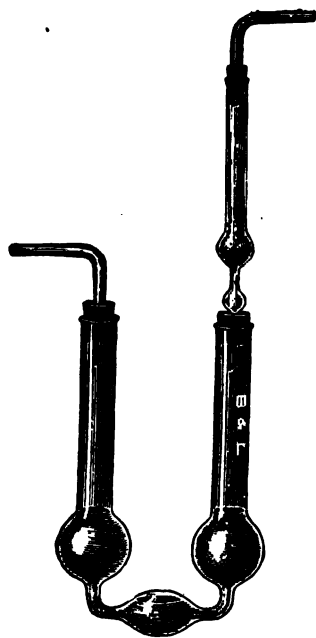
14576. Plumbago muffles 165 x 90 x 70 mm., for No. 14572. Each \$1.80

14578. Furnace, Perfected Injector, Fletcher's. Same as No. 14572, but fitted for use with gasoline gas. Complete with gasoline gas generator No. 14790B, 360 mm. of tubing, one muffle, one crucible, and Foot Blower No. 12590B. Each \$42.00

Furnace, Perfected Injector, Fletcher's. For refined petroleum or kerosene. The arrangement of this furnace is in every way as simple and effective as when gas is used, requiring no more trouble or attention. It has been fully tested in the performance of metallurgical operations, and has been found equal to the gas furnace in efficiency. The number of burners used varies with the size of the furnace, and a foot blower of proportionate size will be required. (See list sizes, etc., on page 228.)



14600



14596



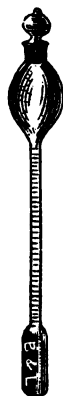
14590



14604

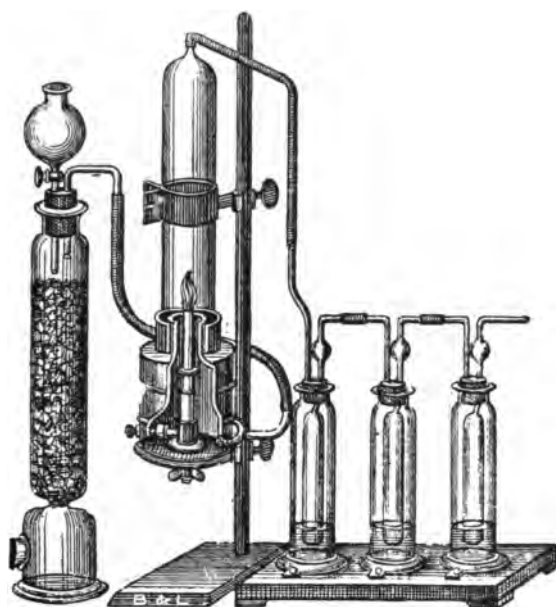


14592



14594

- 14580. Furnace, Perfected Injector, Fletcher's.** With two burners and one crucible 75 x 65 mm. Each \$12.00
- 14582.** Body, cover, and dome for furnace No. 14580. Each \$3.60
- 14584. Furnace, Perfected Injector, Fletcher's.** With three burners and one crucible 100 x 95 mm. Each \$15.00
- 14586.** Body, cover, and dome for Furnace No. 14584. Each \$6.00
- Furnaces for Low Temperature.** See STOVES.



14606



14602

14588. Furnace Blowpipes, Hoskins'. For gasoline. Made entirely of brass. Very strong. Will not rust. (See Illustration, page 227.)

Number	2	3
Capacity of reservoir, liters	2	4
Each, Net	23.00	26.00

14589. Extra burners for No. 14588.

Each, Net \$6.00

14590. Furnace Blowpipe, Hoskins' No. 4. For gasoline. Made of heavy copper. This blowpipe is of the very best workmanship and will be found very convenient when large quantities or continuous work is required. Complete, with suitable pump, pressure gauge, 300 cm. of pipe, elbow, 20-liter tank, and two burners.

Each, Net \$50.00

14592. Fusel Oil Apparatus, Bromwell's. (See page 228.)

Each \$2.75

14594. Fusel Oil Apparatus, Herzfeld's. For the determination of fusel oils. With glass stopper. (See page 228.)

Each \$1.75

GAS APPARATUS

Gas apparatus of any form not listed below will be made to order.

14596. Gas Apparatus. With Peligot's bulb tube; for the absorption of gases (Hempel, Fig. 40).

Each \$1.25

14600. Gas Apparatus. For the determination of oxygen by the exact method (Hempel, Fig. 51).

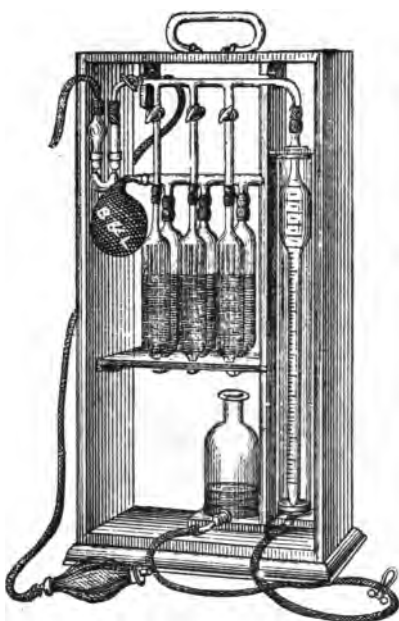
Each \$8.00

14602. Gas Apparatus, Bunsen's. For the determination of the specific gravity of gases by the rapidity of discharge. With mercury cistern (Hempel, Fig. 63).

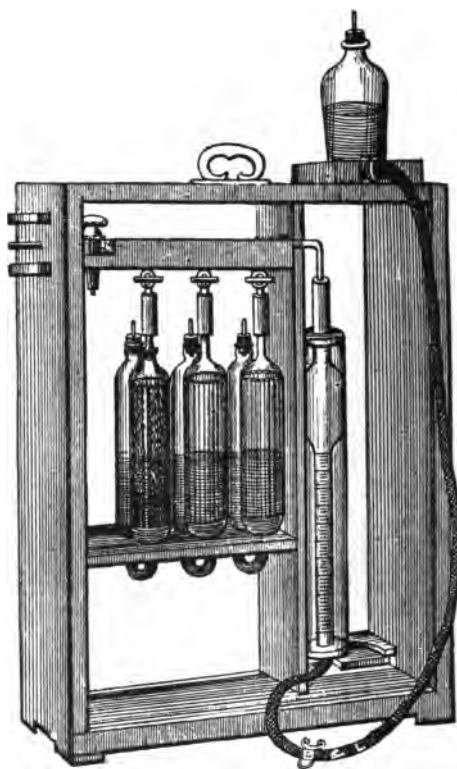
Each \$36.50

14604. Gas Apparatus, Chancel's. For determining the specific gravity of gases. With extra flask of about same weight.

Each \$3.50



14610

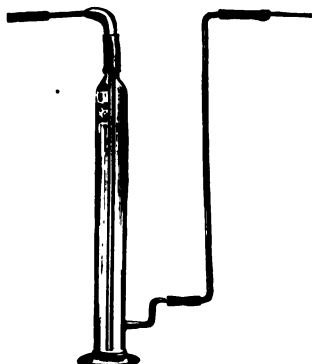


14618

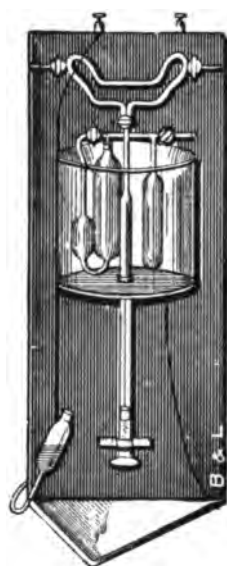
- 14606. Gas Apparatus, Drehschmidt's.** For the determination of sulphur in illuminating gas (Hempel, Fig. 68). **Each \$30.00**
- 14607. Gas Apparatus, Johnson's.** For purifying and drying gases with solid dryers, such as calcium chloride, phosphoric anhydride, etc. Avoids the use of rubber stoppers, the connecting tube being held in place by heavy pure gum tubing. Has heavy foot and needs no other support. Connecting tubes are of such form and interchangeability as admit of any desired arrangement of a series in train or triangle. Well adapted for combustion trains. Designed by C. M. Johnson. (See illustration, page 231.) **Each \$1.25**
- 14608. Gas Apparatus (Fluorometer), Oettel's.** For the determination of fluorine (Hempel, Fig. 86). Complete, with support. **Each \$6.00**
- 14610. Gas Apparatus, Orsat-Fisher's.** For the analysis of furnace gases. Consisting of two pipettes. Complete in wooden case. **Each \$20.00**
- 14612. Gas Apparatus, Orsat-Fisher's.** Glass parts only. **Each \$14.00**
- 14614. Gas Apparatus, Orsat-Lunge's.** For the analysis of furnace gases. With modifications for estimating hydrogen separately. Consists of four pipettes and one measuring burette. Complete in wooden case. **Each \$33.25**
- 14616. Gas Apparatus, Orsat-Lunge's.** Glass parts only. **Each \$22.50**



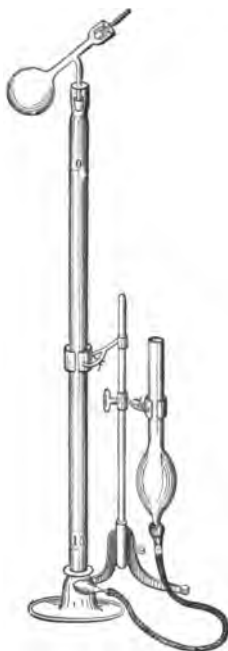
14624



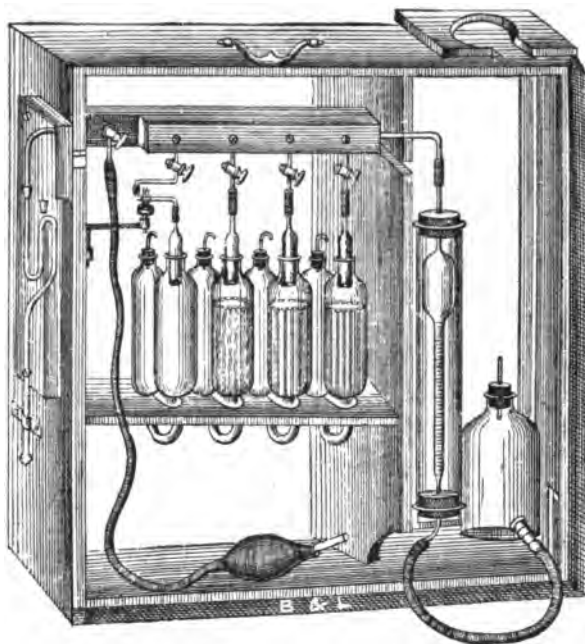
14607



14622



14608



14614

14618. Gas Apparatus, Orsat-Muencke's. For the analysis of CO_2 , CO , and O . Consists of three pipettes and one measuring burette. Complete in wooden case. **Each \$25.00**

14620. Gas Apparatus, Orsat-Muencke's. Glass parts only. **Each \$15.75**

14622. Gas Apparatus, Petterson and Palmquist's. For the determination of carbon dioxide (Hempel, Fig. 81). **Each \$48.00**



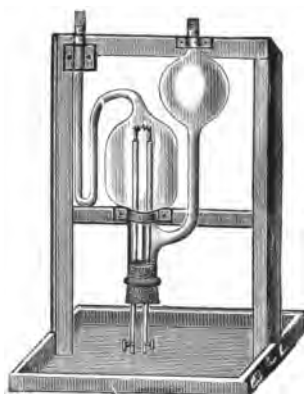
14626



14630



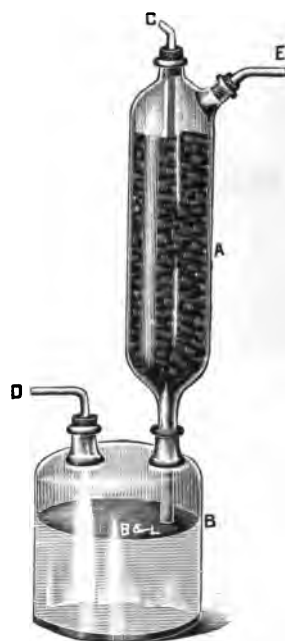
14632



14634

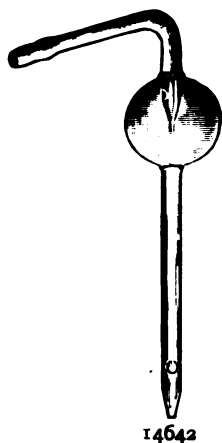


14640

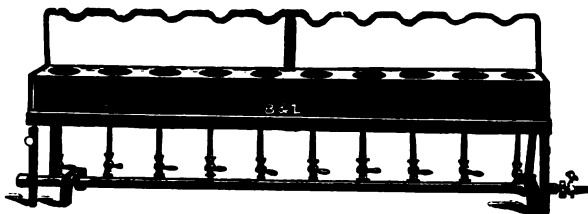


14636

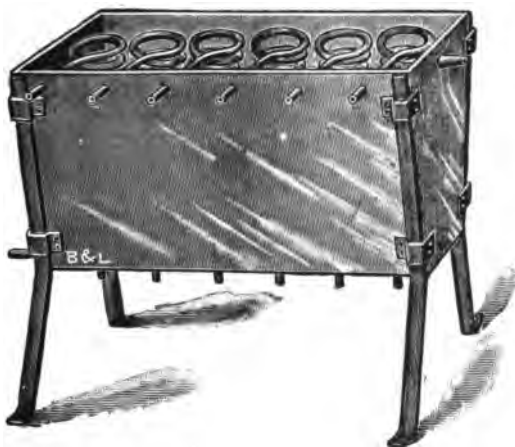
- 14624. Gas Apparatus, Reich's.** For the determination of sulphur dioxide in kiln gases in the manufacture of sulphuric acid (Hempel, Fig. 71). (See page 231.) **Each \$12.50**
- 14626. Gas Apparatus, Rudorff's.** For determining carbon dioxide in illuminating gases or moisture (Hempel, Fig. 69). **Each \$10.00**
- 14628. Gas Apparatus, Rudorff's.** With compensating tube to render the apparatus independent of the temperature and pressure of the atmosphere. **Each \$12.00**
- 14630. Gas Apparatus, Schilling's.** For determining the specific gravity of illuminating gas (Hempel, Fig. 64). **Each \$30.00**
- 14632. Gas Apparatus, Tiefrunk's.** For the determination of tar in unwashed gases (Hempel, Fig. 66). **Each \$15.00**
- 14634. Gas Apparatus, Winkler's.** For the estimation of methane; with platinum spiral (Hempel, Fig. 67). **Each \$4.50**



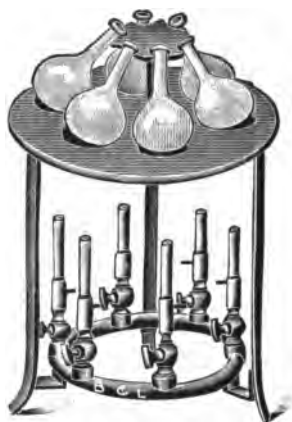
14642



14644



14638



14646

14636. Gas Apparatus, Winkler's. For the absorption of gases in large amounts (Hempel, Fig. 41). **Each \$3.00**

Gas Apparatus for Nitrogen Determination.

14638. Condenser, Kjeldahl's. Of copper, with coils of block tin.

Number of coils	6	10
Each	24.00	33.00

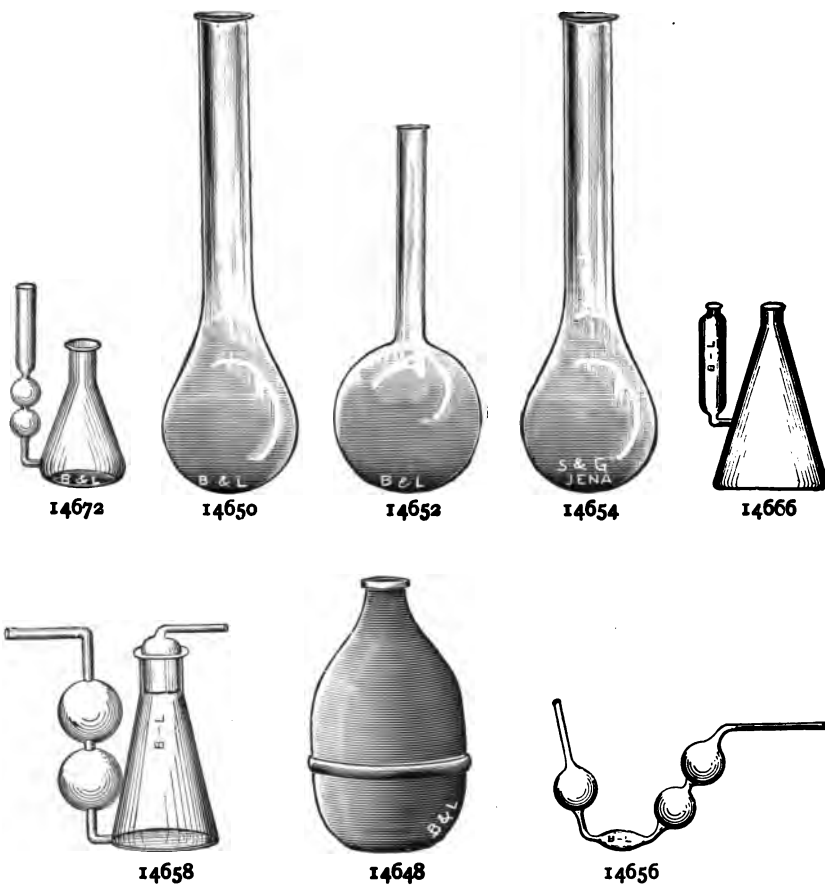
14640. Connecting Bulb Tubes, Kjeldahl's. (See illustration, page 232.)

Size	Small	Large
Each	.25	.35

14642. Connecting Bulb Tubes, Hopkins'. New form for rapid work. Designed by Prof. C. G. Hopkins. **Each \$0.50**

14644. Digesting Shelf, Kjeldahl's. Oblong form.

Number of burners	6	10
Each	16.00	20.00



14646. Digesting Shelf, Kjeldahl's. Round form, with six burners, each provided with stop cock. (See page 233.) **Each \$16.00**

14648. Flasks, Kjeldahl's. Of copper; extra heavy.

Capacity, cc.	250	500	1000	2000
Each	.20	.25	.30	.35

14650. Flasks, Kjeldahl's. Of infusible Bohemian glass; pear shape; long neck.

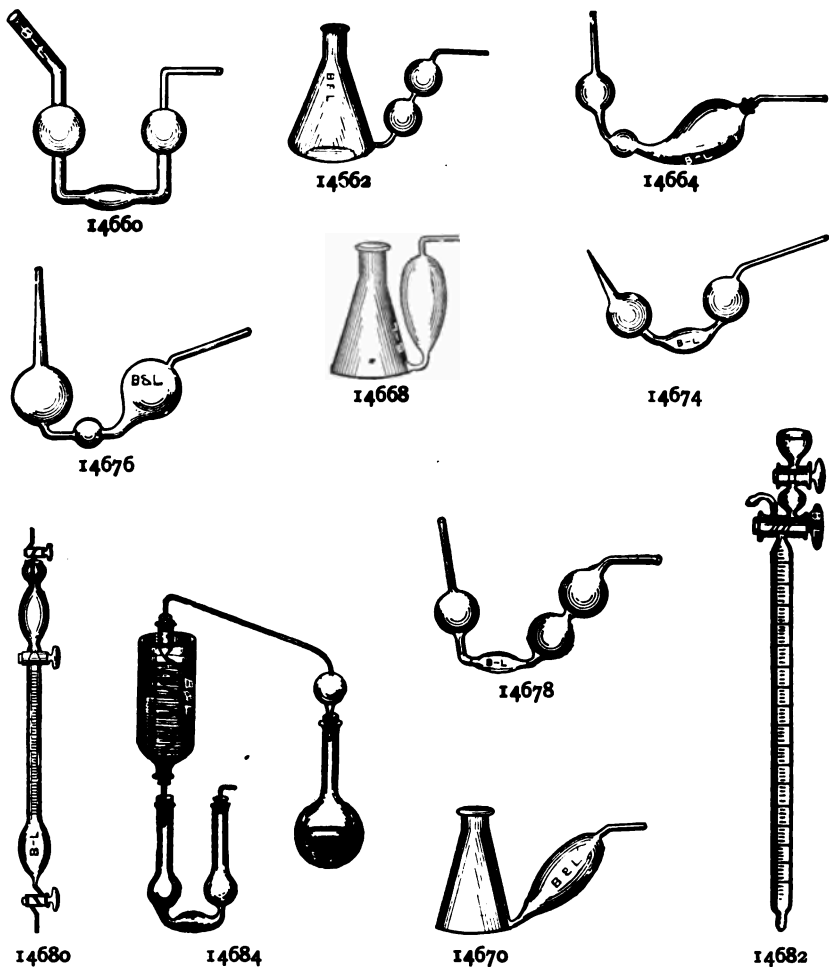
Capacity, cc.	100	250	500	1000
Each	.15	.20	.30	.45

14652. Flasks, Kjeldahl's. Of infusible Bohemian glass; globe shape.

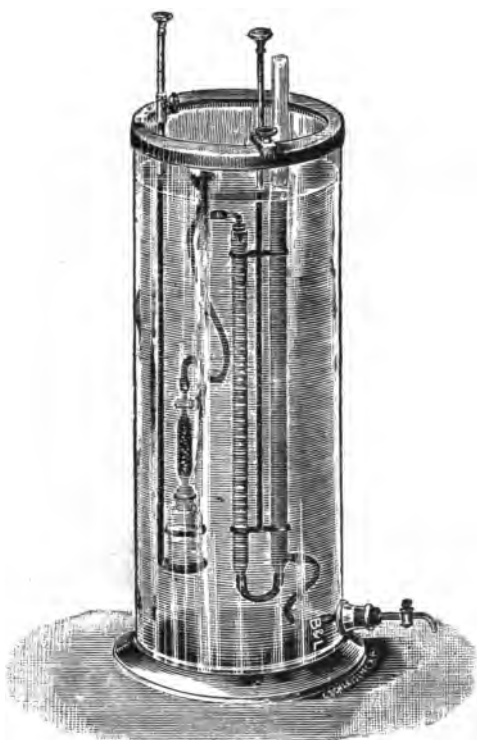
Capacity, cc.	100	250	500	1000
Each	.15	.20	.30	.45

14654. Flasks, Kjeldahl's. Jena Glass. Pear shape; long neck.

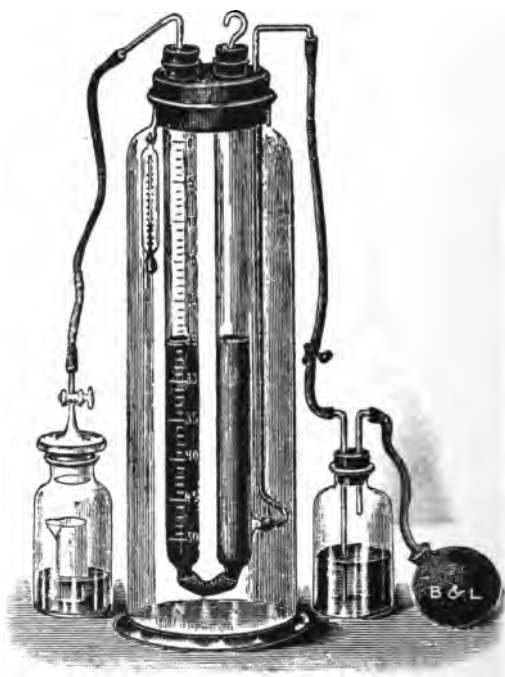
Capacity, cc.	100	200	300	500	800	1000	1300
Each	.18	.25	.32	.42	.50	.60	.70



14656. Nitrogen Bulb, Arendt's.	Each	\$0.30
14658. Nitrogen Bulb, Clemens-Winkler's. With ground-in stopper.	Each	\$1.05
14660. Nitrogen Bulb, French Form.	Each	\$0.35
14662. Nitrogen Bulb, Fresenius'.	Each	\$0.45
14664. Nitrogen Bulb, Shepard's.	Each	\$0.40
14666. Nitrogen Bulb, Stein-Schwarz'.	Each	\$0.70
14668. Nitrogen Bulb, Vollhard's.	Each	\$0.45
14670. Nitrogen Bulb, Vollhard's.	Each	\$0.45
14672. Nitrogen Bulb, Vollhard's, Latest Form.	Each	\$0.55
14674. Nitrogen Bulb, Will-Varentrapp's. With three bulbs.	Each	\$0.30

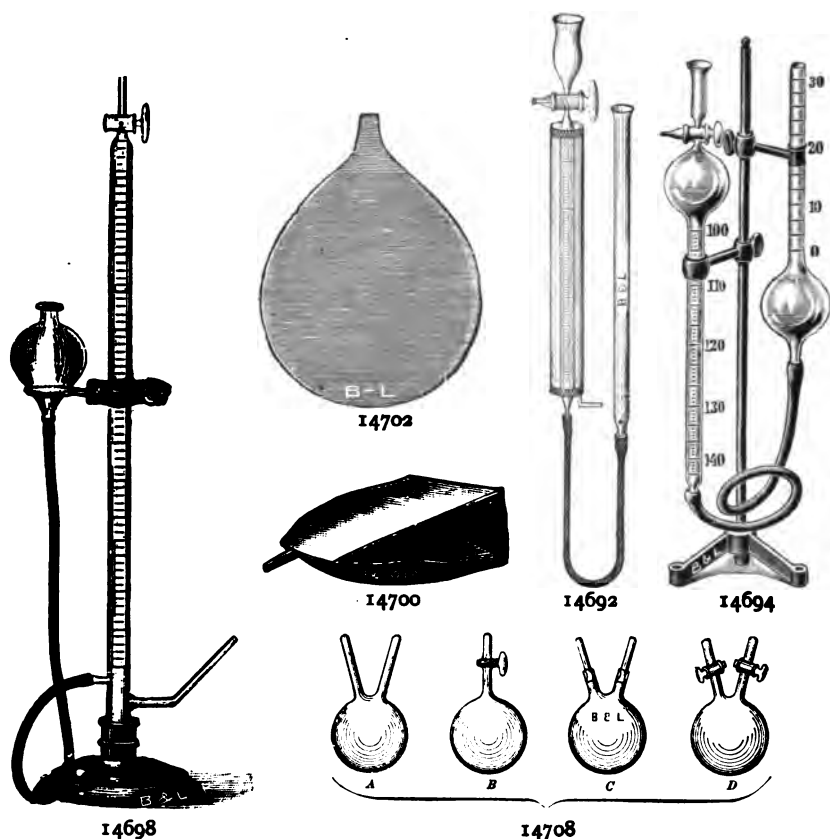


14686



14688

14676. Nitrogen Bulb, Will-Varentrapp's. With three bulbs. Each \$0.30
14678. Nitrogen Bulb, Will-Varentrapp's. With four bulbs. Each \$0.40
14680. Nitrometer, Franke's. For the determination of nitrogen. Each \$8.00
14682. Nitrometer, Horn's. For the determination of nitrogen in gun powder. With leveling tube. Each \$7.50
14684. Nitrometer, Kjeldahl's. As modified by Arnold; for nitrogen and ammonia determination. Each \$5.50
14686. Nitrometer, Knop's. For the volumetric determination of nitrogen (Hempel, Fig. 57). Each \$25.00
14688. Nitrometer, Knop-Wagner's. For the volumetric determination of nitrogen. Each \$15.00
14690. Nitrometer, Lunge's. Capacity, 50 cc.; graduated in $1/10$ cc. Without water-jacket. Each \$4.00
14692. Nitrometer, Lunge's. With water-jacket. Each \$5.00
14694. Nitrometer, Lunge's. For the determination of nitrogen in saltpeter gun powder, nitroglycerine and other combinations. Graduated from 100 to 140 cc. in $1/10$ cc. Complete with support. Each \$8.00



14696. Nitrometer, Lunge's. Without support. Each \$5.00

14698. Nitrometer, Schiff's. For the determination of nitrogen. Capacity, 100 cc.; graduated in $\frac{1}{5}$ cc. With reservoir. Each \$5.00

Nitrometer Supports. See SUPPORTS.

14700. Gas Bags. Pure gum; without stop cock; oblong.

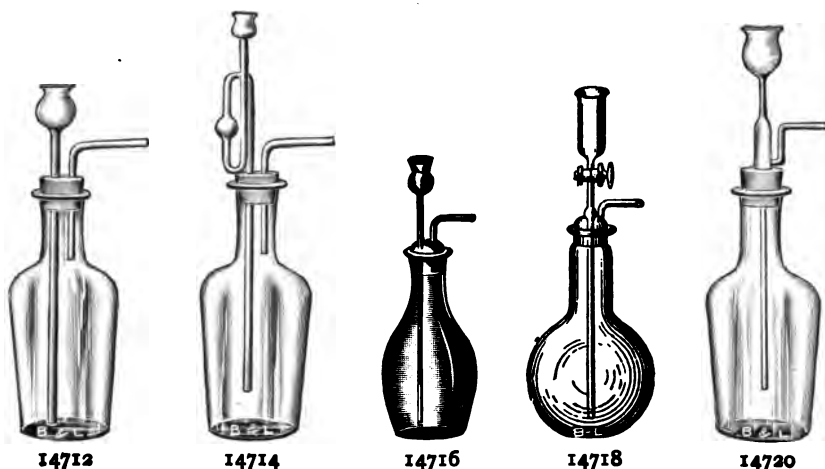
Capacity, liters	60	100	140	220
Size, cm.	45x60	50x75	60x75	75x100
Each, Net	6.55	8.30	10.10	12.60

14702. Gas Bags. Oval.

Capacity, liters	2	4	6	8	10	12	16
Each, Net	.95	1.10	1.30	1.45	1.60	1.80	2.10
Capacity, liters	20	24	28	32	36	40	
Each, Net	2.25	2.70	3.00	3.40	3.90	4.65	

14704. Brass stop cock for connecting gas bags with tubing.

Size	Small	Medium	Large
Each	.80	1.00	1.20



14706. Rubber stop cocks for connecting gas bags with tubing.

Size	Small	Medium	Large
Each	1.00	1.20	1.50

Gas Balances. Any kind imported to order.

14708. Gas Balloons. Of blown glass; for weighing gases. (See page 237.)

Style	A	B	C	D
Each	.75	1.50	1.50	2.50

Gas Balloons for Collecting Gases. See BALLOONS.

14710. Gas Bottles. For generating gases.

Capacity, cc.	125	175	250	375	500	750	1000
Each	.10	.15	.18	.20	.24	.30	.35

14712. Gas Bottles. With rubber stopper, funnel and delivery tubes.

Capacity, cc.	125	175	250	375	500	750	1000
Each	.45	.48	.50	.55	.60	.70	.75

14714. Gas Bottles. With rubber stopper, safety and delivery tubes.

Capacity, cc.	125	175	250	375	500	750	1000
Each	.12	.18	.20	.25	.30	.35	.40

14716. Gas Bottles. With ground glass stopper, funnel and delivery tubes.

Capacity, cc.	250	500	1000
Each	.80	1.00	1.20

14718. Gas Bottles. With ground glass stopper, safety tube with glass stop cock and delivery tube.

Capacity, cc.	250	500	1000
Each	1.50	2.00	2.25

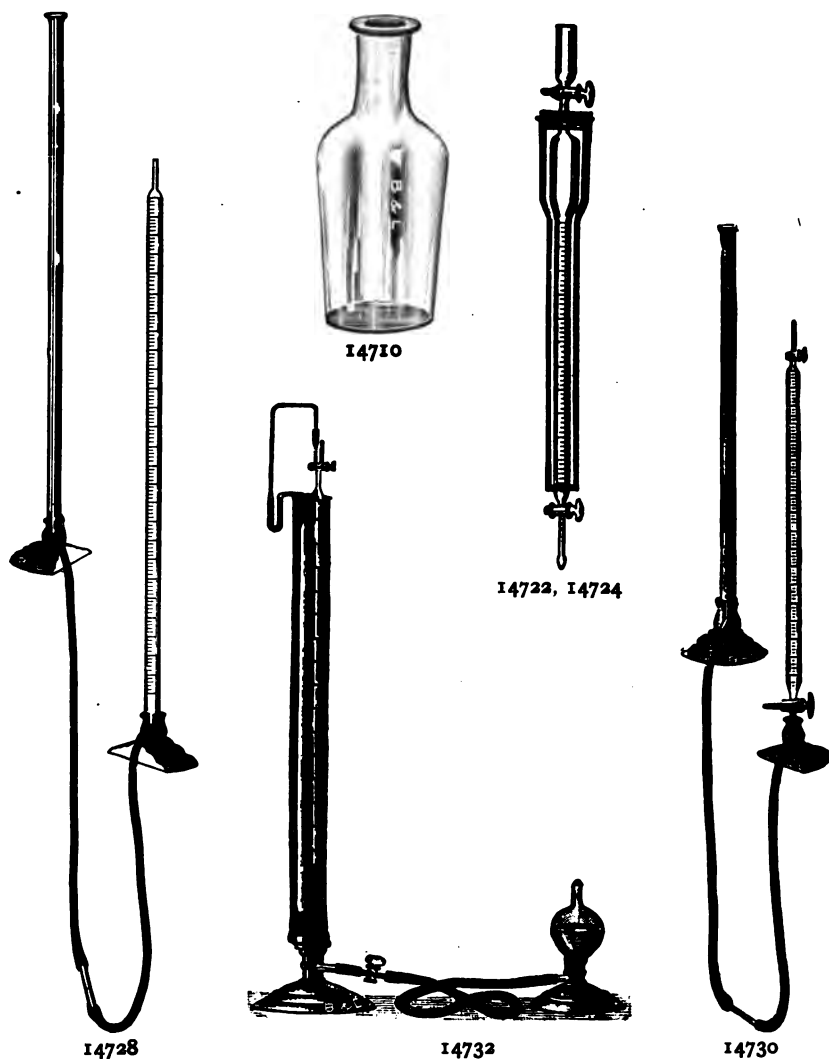
14720. Gas Bottles, Vogel's. With rubber stopper.

Capacity, cc.	125	175	250	375	500	750	1000
Each	.50	.60	.70	.75	.80	.90	1.00

14722. Gas Burette, Bunte's. Without water-jacket; 50 cc. in 1/10.

Each \$5.00

14724. Gas Burette, Bunte's. With water-jacket; 50 cc. in 1/10. Each \$5.75



14726. Gas Burette, Elliott's. For explosions. Each \$5.75
14728. Gas Burettes, Hempel's. For gas analysis. Set of two on heavy wooden bases (Hempel Fig. 17). Per set \$5.00
14730. Gas Burettes, Hempel-Winkler's. With glass stop cocks. Set of two on heavy wooden bases (Hempel Fig. 18). Per set \$7.50
14732. Gas Burettes, Hempel's. With correction for temperature and pressure (Hempel Fig. 19). Complete as per illustration. Each \$15.00
14734. Gas Burettes, Hempel's. Connecting Tubes for connecting gas burettes, gas pipettes, etc. Each \$0.15
- Gas Burners. See BURNERS, LAMPS, FURNACES, STOVES.



14736



A



B

14738



C



14734



14742-14746



14748



14740

14736. Gas Collecting Tube. With glass stop cocks (Hempel Fig. 14).

Each \$2.50

14738. Gas Collecting Tubes, Cooper's.

Style	A	B	C
Each	.25	.25	.50

Gas Cylinders. See GAS HOLDERS.

14740. Gas Distributors. Of brass. Three-way; without stop cocks.

Each \$1.00

14742. Gas Distributors. Three-way; with two stop cocks.

Each \$2.00

14744. Gas Distributors. Four-way; with three stop cocks.

Each \$3.00

14746. Gas Distributors. Five-way; with four stop cocks.

Each \$4.00

14748. Gas Distributors. Four-way; with four stop cocks, and small burner in center with stop cock.

Each \$4.50

14750. Gas Generators. For generating chlorine gas. Consists of a ring-neck flask and a washing bottle with rubber stoppers, funnel and delivery tubes, etc. (See illustration, page 241.)

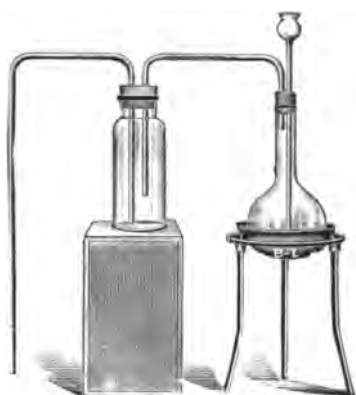
Capacity, cc.	100	250	500	1000	2000
Each	.70	.80	.90	1.25	1.50

14752. Gas Generators. For generating oxygen. Of heavy polished copper, with iron clamp and brass delivery tube fitting by ground joint. Diameter of tube, 12 mm. (See illustration, page 241.)

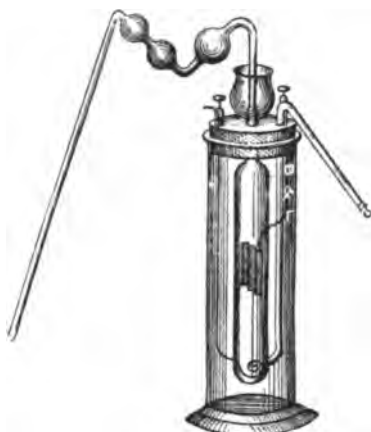
Capacity, cc.	250	500	1000	2000
Each	1.80	2.00	2.50	3.00

14754. Gas Generator. For generating hydrogen by electrolysis.

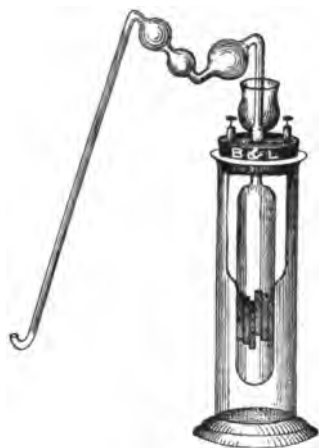
Each \$4.00



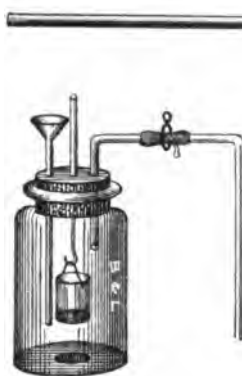
14750



14754



14756



14764



14752

14756. **Gas Generator.** For generating oxy-hydrogen by electrolysis. Each \$4.00
14758. **Gas Generator, Babo's.** For the rapid production of sulphureted hydrogen in small quantities. Mounted on stand. Each \$5.00
14760. **Gas Generator, Babo's.** Glass parts only. Each \$1.20
14762. **Gas Generator, Dudley's.** For generating sulphureted hydrogen rapidly in large quantities. Used in the laboratory of the Pennsylvania Railroad Co. Consists of a jar, 450 x 100 mm., for the iron sulphide and a bottle of 2 liters capacity and with stop cock for the acid. (See illustration, page 242.) Each \$5.00
14764. **Gas Generator, Duflos'.** With copper basket and funnel tube. Capacity, 1 liter. Each \$3.00
14766. **Gas Generator, Kekule's.** (See illustration, page 242.)

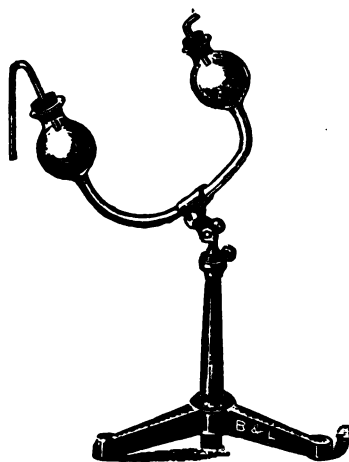
Capacity, liters	4	12
Each	4.50	8.00



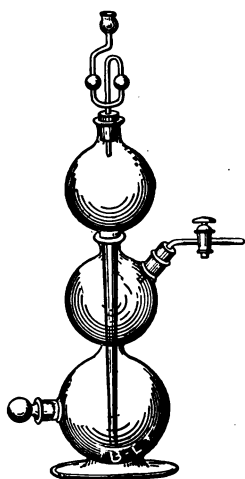
14762



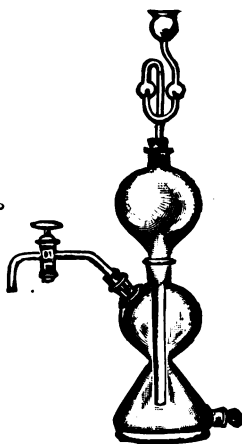
14766



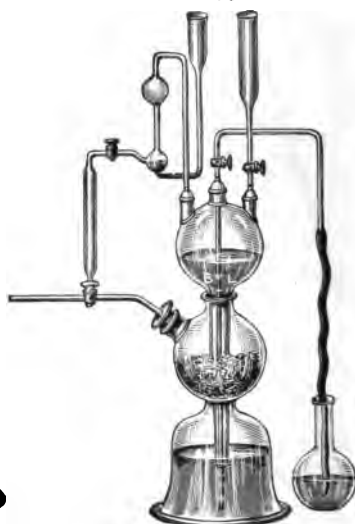
14758



14763



14770



14774

14768. Gas Generators, Kipp's. Improved form, for the continuous production of hydrogen sulphide. With large side opening for filling. Complete with Geissler's stop cock, funnel tube, etc.

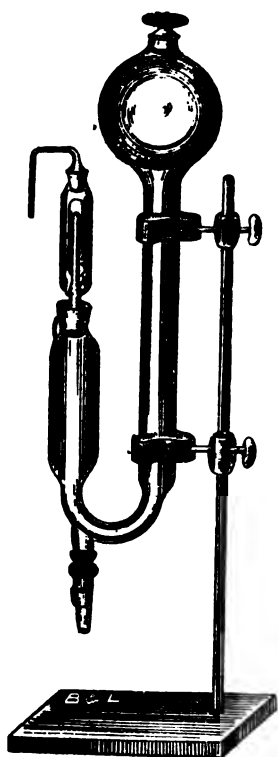
Capacity, cc.	250	500	1000	1500	2000
Each	3.00	3.75	4.50	5.50	6.25

14770. Gas Generators, Kipp's. For generating hydrogen sulphide.

Capacity, cc.	250	500	1000	2000
Each	3.00	3.75	4.50	6.25

14772. Gas Generators, Kipp's. Perforated Rubber Plates for holding the iron sulphide in the above generations (Nos. 14768 and 14770) from falling into the lower chamber.

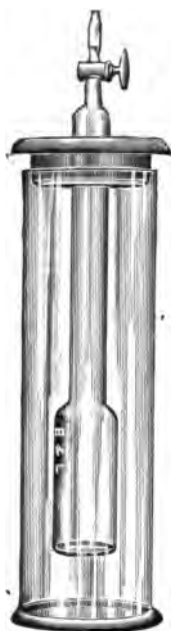
Size; capacity of generator, cc.	250	500	1000	2000
Each	.30	.35	.45	.60



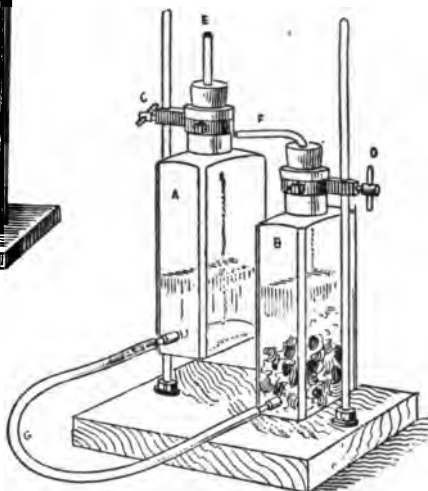
14776



14782



14784



14780

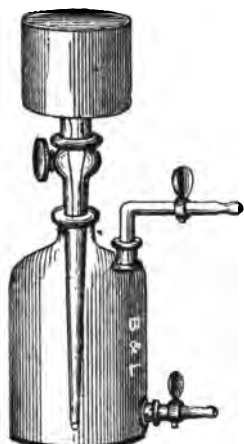
14774. Gas Generator, Muencke's. For the production of pure carbon dioxide without air. **Each \$11.00**

14776. Gas Generators, Norblad's. For the production of hydrogen sulphide and carbon dioxide. Without support.

	Capacity, cc.	1000	2000
Each		5.75	9.00

14778. Gas Generators, Norblad's. Support for Norblad's generators. Either size. **Each \$2.75**

14780. Gas Generator, Skidmore's Normal School. Designed by Prof. S. T. Skidmore for individual student use. Will supply HCO_2 , NO , H_2S or any gas generated by the action of a liquid on a solid without heat. The action is under perfect control by adjusting the relative



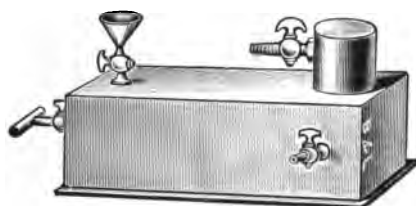
14792



14788



14794, 14796



14790

height of the bottles. Wide mouth bottles are used so as to admit large lumps. Capacity of bottles, 125 cc.; any size may be supplied to order.

Each \$2.00

14782. **Gas Generator, Steenbuch's.** For the continuous production of hydrogen, hydrogen sulphide and carbon dioxide. Each \$4.80

14784. **Gas Generator, Wait's New.** Designed by Dr. Charles E. Wait. For generating carbonic anhydride, hydrogen sulphide, or hydrogen. The generator consists of an outer jar for the acid liquid and an inner gas generating tube to hold the solid. The latter is very much enlarged near the bottom for holding large amounts of the solid and at its top terminates in a glass stop cock; it is securely fastened to the movable cover, forming one piece with it, thus avoiding the use of cork or stopper of any kind fitted to the generating vessel the loosening of which by repeated use allows the escape of gas which in time exhausts the generator, one of the most objectionable features of many of the generators on the market. The advantages of this generator are: its gas tight reservoir, its unusually large generating tube, and the simplicity of its parts which enables the generator to be taken apart, cleaned and recharged with considerable ease. (See illustration, page 243.)

Capacity, liters	4	12
Each	12.00	22.00

14788. **Gas Generator, Gasoline.** Made entirely of brass, polished and nickel plated. Provided with valve of special construction which controls both gas and air outlets by partially revolving the hand wheel to the left, and completely shuts off all connections from the gener-



14798



14800

ator by turning to the right. By means of this valve the size of flame can be regulated from a large brush flame to a fine needle point. The interior of the generator contains nearly 4200 centimeters of evaporating surface and when the gasoline has been removed there still remains gas enough to operate the blowpipe for nearly twenty minutes. Capacity, 1 liter. The hand wheel must be turned to the right before attempting to fill the generator or the generator will be filled too full of gasoline. **Each \$9.00**

- 14790. Gas Generator, Gasoline.** For use in furnace and blowpipe work where coal gas is not available. The vapor produced gives a flame and heat of absolute purity for the most delicate chemical operations where coal gas cannot be used owing to the presence of sulphur and other impurities. Must be used with air pressure. Complete with directions for use. (See illustration, page 244.)

	A	B
Size, mm.	100x100x250	250x250x450
Capacity, liters	1	6
Each	7.20	18.00

- 14792. Gas Holders, Berzelius'.** All glass. (See illustration, page 244.)

Capacity, liters	2	4	8
Each	7.50	9.00	15.00

- 14794. Gas Holders, Berzelius-Pepys'.** Improved form. Made of heavy copper, with glass gauge.

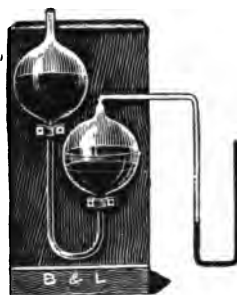
Capacity, liters	20	40
Each	21.00	26.00



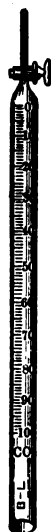
14808



14812



14814



14810

14796. Gas Holders, Berzelius-Pepy's. Made of heavy zinc. (See page, 244.)

Capacity, liters	20	40
Each	17.00	20.00

The above gas holders, Nos. 14794 and 14796, will be made in larger sizes to order.

14798. Gas Holders, Mitscherlich's. Made of glass, with brass fittings.

Capacity, liters	15	25
Each	20.00	28.75

14800. Gas Holders. Steel cylinders for holding gases. (See illustration, page 245.)

Capacity, at 225 lbs. pressure to sq. in., cu. ft.	15	25
Each, Net	14.00	15.00

14802. Valves for controlling outlet of gas for No. 14800. Each, Net \$3.00

14804. Pressure gauge for No. 14800. Each, Net \$4.50

14806. Wrench for opening and closing valve for No. 14800. Each, Net \$0.80

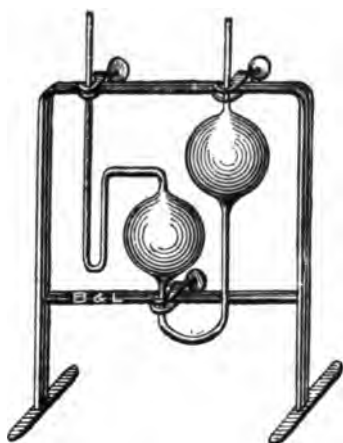
14808. Gas Measuring Tubes. Of glass; accurately graduated; sealed at one end.

Capacity, cc.	25	25	50	50	100	100	200
Graduated, cc.	1/10	1/5	1/10	1/5	1/5	1	1
Each	.65	.55	.90	1.00	1.50	1.20	1.50

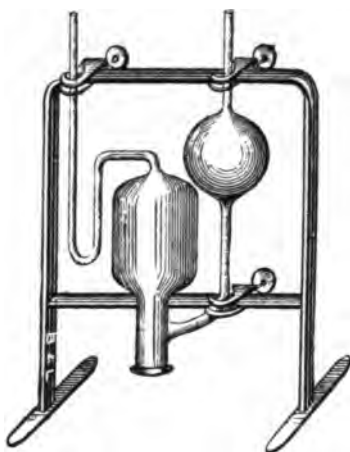
14810. Gas Measuring Tubes. Of glass; accurately graduated; with stop cock.

Capacity, cc.	50	100
Graduated, cc.	1/10	1/5
Each	1.75	2.25

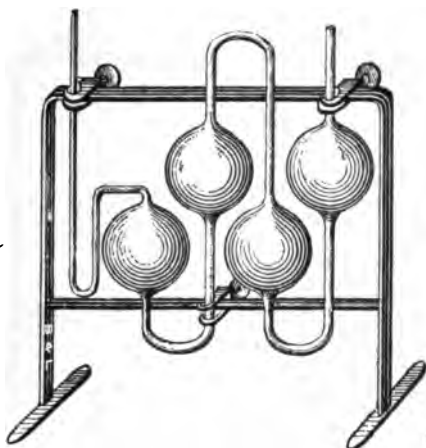
Gas Measuring Tubes, Other Styles. See EUDIOMETERS AND GAS COLLECTING TUBES.



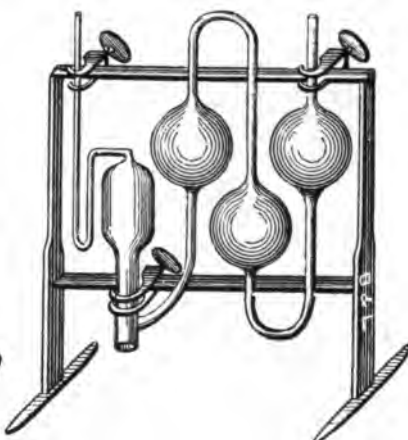
14816



14818



14820



14822

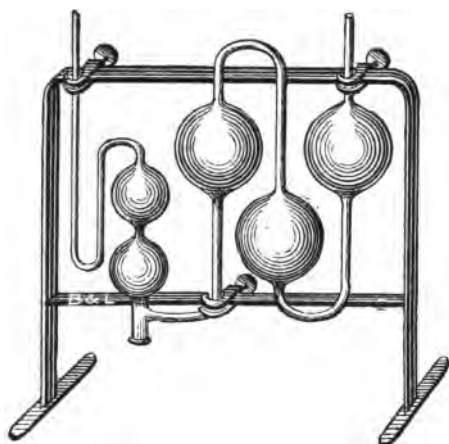
14812. Gas Palladium Tube, Hempel's. For the absorption of hydrogen. Holds about 2 grams of palladium sponge (Hempel Fig. 56).
Filled. Each \$1.50

14814. Gas Pipette, Etling's. For exact analysis over mercury (Hempel Fig. 28). Each \$2.50

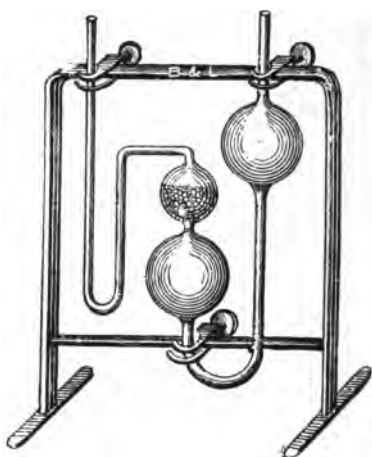
Gas Pipettes, Hempel's. Mounted on latest improved iron supports, the glass parts being fastened to the stands by means of adjustable clamps instead of being cemented to wooden or metal frames with plaster of Paris as in older forms. In this form of stand it is possible to attach new glass parts in a few moments, the adjustable clamps compensating for any variation in the shape of the pipette.

14816. Gas Pipette, Hempel's. Simple absorption; for liquid reagents. (Hempel Fig. 20.) Each \$3.25

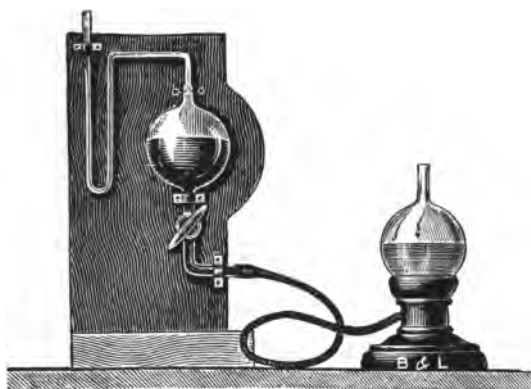
14818. Gas Pipette, Hempel's. Simple absorption; for liquid and solid reagents. (Hempel Fig. 21.) Each \$3.25



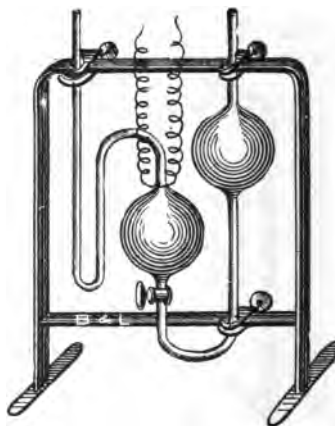
14824



14826

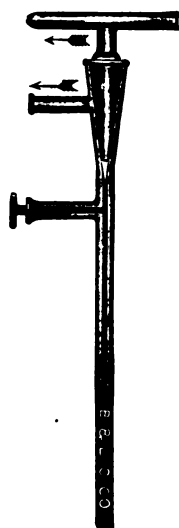
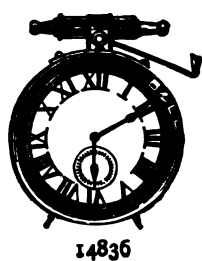


14828

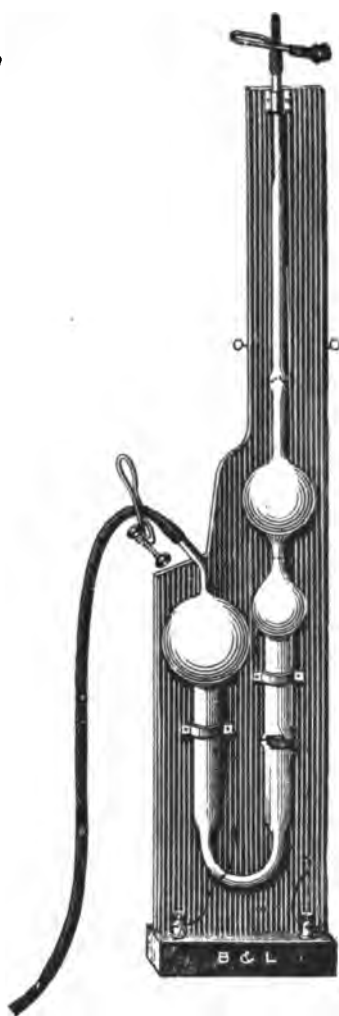


14830

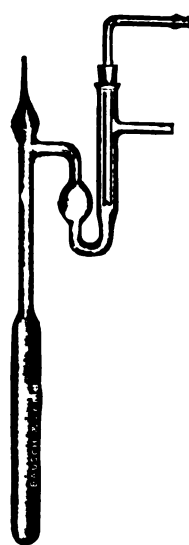
- 14820. Gas Pipette, Hempel's.** Compound absorption; for liquid reagents. (Hempel Fig. 22.) (See page 247.) **Each \$4.00**
- 14822. Gas Pipette, Hempel's.** Compound absorption; for liquid and solid reagents. (Hempel Fig. 23.) See page 247.) **Each \$4.00**
- 14824. Gas Pipette, Hempel's.** Compound absorption; for preparing pure hydrogen. (Hempel Fig. 45.) **Each \$4.50**
- 14826. Gas Pipette, Hempel's.** Ethylene absorption; with glass beads. (Hempel Fig. 60.) **Each \$4.00**
- 14828. Gas Pipette, Hempel's.** Explosion; with platinum electrodes, stop cock, and leveling bulb. (Hempel Fig. 44.) **Each \$7.00**
- 14830. Gas Pipettes, Hempel's.** Simple explosion; with stop cock and platinum electrodes. (Hempel Fig. 46.) **Each \$5.00**
- 14832. Gas Pipettes, Hempel's.** Compound explosion; new form with electrodes for generating hydrogen and oxygen. **Each \$5.00**
- Connecting Tubes for connecting gas pipettes, gas burettes, etc.**
See No. 14734.



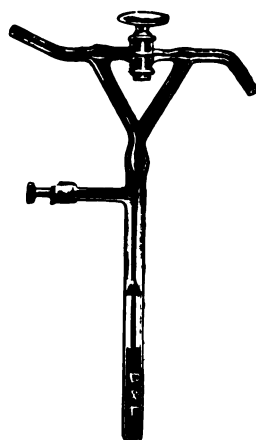
14843, 14844, 14845



14832



14838

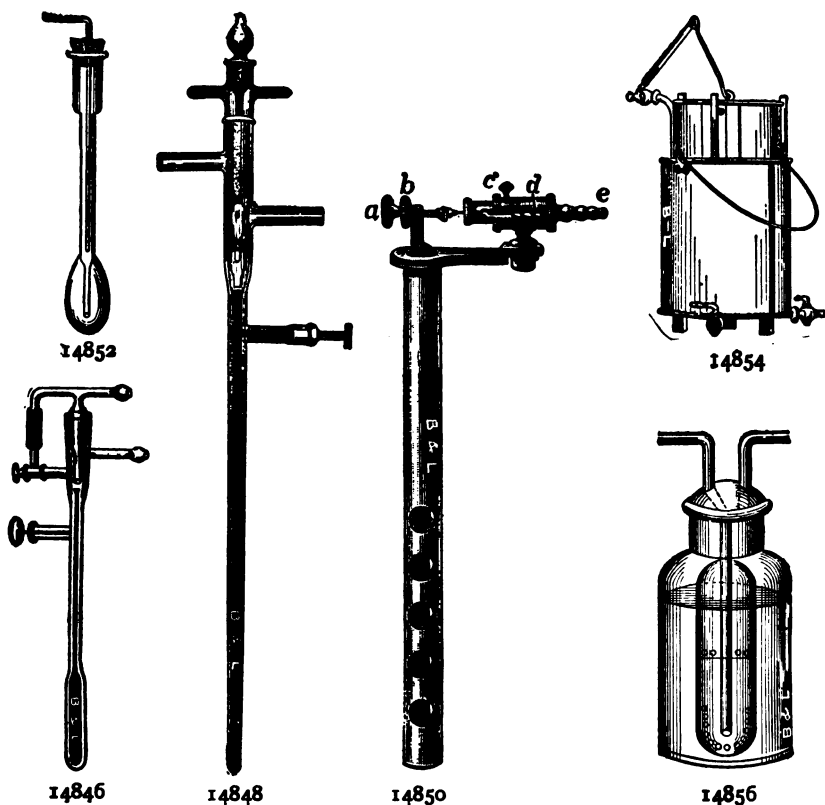


14842

14836. Gas Regulator. For shutting off the supply of gas at any desired time. Consists of a specially constructed clock with timing device and gas valve. The gas valve is connected by rubber tubing between the gas supply and the apparatus which it is to regulate.

Each \$4.80

14838. Gas Regulator, Dunham's. For incubators and other purposes where exact temperatures are required. This is an extremely sensitive and simple regulator. Its sensitiveness is derived from the use of alcohol in the large bulb. The minute changes in the volume of alcohol caused by temperature variations act on a column of mercury in the U-shaped arm and regulate the passage of gas through the tubes. Adjustments for different temperatures are made by sliding the gas inlet tube up or down as required. Directions for



filling and using accompany each. Complete with liquid and mercury for filling. Each \$3.50

14840. Gas Regulator, Dunham's. Glass parts only. Each \$2.00

14842. Gas Regulator, Muencke's Improved. For low pressure only. When the temperature rises the gas supply is reduced by mercury closing the passage at the fork. A stop cock controls the passage of gas through the horizontal tube to the reserve flame. Each \$4.50

Gas Regulator, Reichert's. This regulator is carefully made and tested. (See illustration, page 249.)

14843. Gas Regulator, Reichert's. For high temperatures. Each \$2.00

14844. Gas Regulator, Reichert's. For low temperatures. Each \$2.00

14845. Gas Regulator, Reichert's. Short form for water-baths. Each \$2.00

14846. Gas Regulator, Reichert's Improved Form. With stop cock to prevent extinguishing of the flame. Each \$3.75

14848. Gas Regulator, Reichert-Novy's. An improved form for high or low temperatures. The maximum flow of gas is ample for high temperatures while the construction of the regulator is such that the



14858



14860



14862



14864

flow may be reduced to an amount just sufficient to keep the flame from going out. This regulator works exceedingly well especially when connected with the gas pressure regulator No. 14854.

Each \$5.00

- 14850. Gas Regulator, Roux' Bimetallic.** An accurate regulator made without the use of mercury or glass. It is exceedingly simple in operation and regulates more constantly than any other form of regulator now on the market.

Size	Small	Large
Each	12.00	14.00

- 14852. Gas Regulator, Soxhlet's.** A simple regulator consisting of a glass tube of special form with inner tubes for controlling the passage of gas. Alcohol may be used as the sensitive fluid. Each \$1.00

- 14854. Gas Pressure Regulator.** For delivering gas to apparatus at a constant pressure regardless of the pressure variations in the supply. Designed to be used in connection with a gas regulator and with it the temperature may be held constant within 0.1°C . With this apparatus and Novy's gas regulator it is possible to maintain constant temperatures in an air bath at 50°C and an oven at 150°C at the same time. Made of copper. Each \$5.00

- 14856. Gas Washing Bottles, Allihn's.** Double acting.

Capacity, cc.	250	500	1000
Each	1.25	1.50	1.75

- 14858. Gas Washing Bottles, Bunsen's.** With tube and rubber stopper.

Height, mm.	160	180	230
Diameter, mm.	37	40	60
Each	.50	.65	.90

- 14860. Gas Washing Bottles, Drechsel's.** High form.

Capacity, cc.	100	150	200	250	500
Each	.60	.75	.85	1.00	1.25

- 14862. Gas Washing Bottles, Drechsel's.** Low form.

Capacity, cc.	100	150	200	250	500
Each	.60	.75	.85	1.00	1.25



14876



14874



14878



14880, 14882



14866



14868



14884



14870



14872

14864. Gas Washing Bottles, Muencke's. (See illustration, page 251.)

Capacity, cc.	100	250	500
Each	1.00	1.25	1.50

14866. Gas Washing Tube, Muencke's. Each \$1.10

14868. Gas Washing Tube, Muencke's. With stop cock. Each \$2.00

14870. Gas Washing Tube, Scheibler's. Each \$1.00

14872. Gas Washing Tube, Scheibler's. With stop cock. Each \$2.00

Gasometers. See GAS MEASURING TUBES, EUDIOMETERS.

14874. Gauges, Spring. For pressure.

Diameter, mm.	75	90	125	150
Each	4.00	5.00	5.50	10.00

14876. Gauges, Spring. For vacuum.

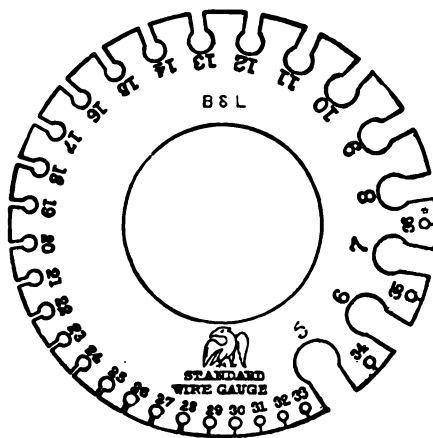
Diameter, mm.	75	90	125	150
Each	4.00	5.00	5.50	10.00

14878. Gauge, Vacuum (Manometer). Of glass, on wooden base; with scale. Each \$2.25

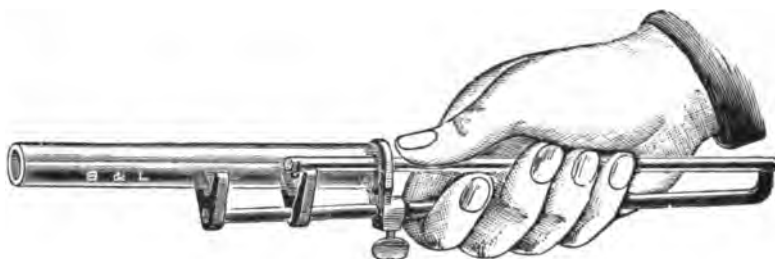
14880. Gauge, Vacuum (Manometer), Bennert's. With stop cock and movable scale. Each \$6.25



14890



14886



14902

14882. Gauge, Vacuum (Manometer), Bennert's. With movable scale engraved on mirror glass. Each \$7.25

14884. Gauge, Vacuum (Manometer), Claisen's. Each \$9.00

14886. Gauges, Wire. American Standard; B. & S. Of best tempered steel.

Size	0 to 36	5 to 36
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Each, Net	3.50	2.50
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14888. Gauge Tubes. For manometers; plain.

Length, mm.	100	200	400
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Each	.12	.20	.25
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Gauze, Wire. See WIRE GAUZE.

14890. Germinating Apparatus, Schönjahn's. Consists of a glass vessel with germinating sieve of porcelain, cover, and thermometer.

Each \$10.00

14892. Glass Beads. For increasing surface in absorbing and drying gases. Solid; 3 to 4 mm. diameter. Per five hundred grams \$1.00

14894. Glass Beads. Hollow; 5 to 6 mm. long; 4 to 5 mm. diameter.

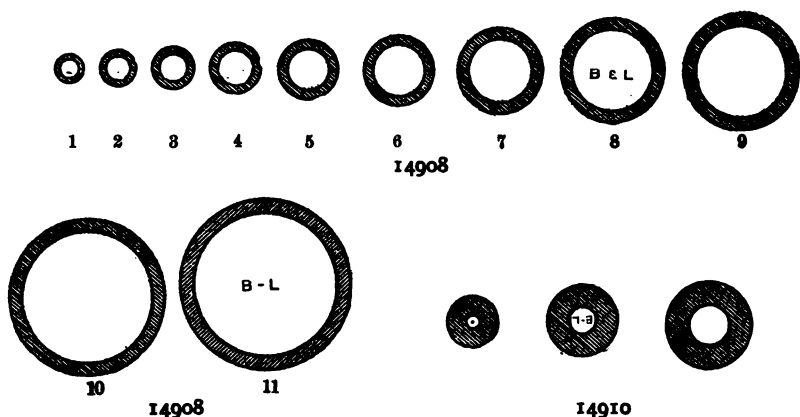
Per five hundred grams \$1.00

Glass Blowers Lamps. See BLAST LAMPS.

14896. Glass Boxes. With ground-on cover; 100 x 40 x 40 mm. Each \$0.75

14898. Glass Cutter. Diamond; for glass plates. Each \$5.00

14900. Glass Cutter. Steel wheel; for glass plates. Each \$0.15



14902. Glass Cutter. For tubing; cuts glass tubing of 10 mm. diameter or over. (See illustration, page 253.)

Glass Ink (Diamond Ink). See **INK**.

Glass Plates. See **PLATES**.

Glass Powder. See **CHEMICAL CATALOGUE**.

14904. Glass Rod. Of German glass, easily melted. Diameters from 2 to 25 mm. In $1\frac{1}{2}$ meter lengths. **Per five hundred grams \$0.40**

14906. Glass Stirrers. Of best German glass; with rounded ends. All sizes; price according to size; 150 mm. length sent unless otherwise ordered. Price for 150 mm. length. **Per five hundred grams \$0.60**

14908. Glass Tubing. Of best German, soft glass. The only suitable tubing for bending and blowing. In lengths of about $1\frac{1}{2}$ meter.

Diameter (outside), mm.	2 to 25	25 to 50
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Per five hundred grams	.40	.45
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14910. Glass Tubing, Barometer. **Per five hundred grams \$0.55**

14912. Glass Tubing, Capillary. From 1 to 5 mm. outside diameter. **Per five hundred grams \$0.90**

14914. Glass Tubing, Combustion. This is genuine Bohemian tubing, made by Kavalier. In lengths of $1\frac{1}{2}$ meter.

Diameter (outside), mm.	3 to 8	9 to 20
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Per five hundred grams	.90	.75
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14916. Glass Tubing, Combustion. Hard Jena Glass. In lengths of 1 or 2 meters; 2 meter length sent unless otherwise ordered. Diameter (outside) 12 to 25 mm. **Per five hundred grams \$0.90**

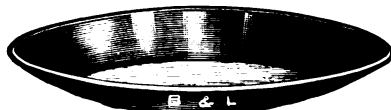
14918. Glass Tubing. For explosion furnaces; of hard Jena glass. Highly resistant to temperature changes and the corrosive action of fluids. This tubing can be brought into the blast furnace without previous warming. In lengths of 1 or 2 meters; 2 meter lengths sent unless otherwise ordered. **Per five hundred grams \$0.90**

14920. Glass Wool. Of spun glass; for filtering acids, etc.

Grade	Coarse	Fine	Free from lead
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Per five hundred grams	4.50	5.40	6.30
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Gloves. See **RUBBER GLOVES AND ASBESTOS MITTENS**.



14922.	Goggles.	Colored glass; for protecting the eyes.	Per pair	\$0.30		
14924.	Gold Washing Horn.	Made of polished steel; 230 mm. long.	Each	\$0.40		
14926.	Gold Washing Horn.	Made of heavy copper; 230 mm. long.	Each	\$0.60		
14928.	Gold Washing Pan.	Agateware; 400 mm. diameter.	Each	\$1.20		
14930.	Gold Washing Pan.	Made of steel, with copper bottom; diameter, 400 mm.; depth, 50 mm.	Each	\$2.50		
14931.	Gold Washing Pan.	(Miner's Washing Pan). Plain iron; diameter, 400 mm.	Each	\$1.00		
14932.	Gold Washing Pan.	Made of heavy copper; diameter, 400 mm., depth, 50 mm.	Each	\$2.75		
14934.	Goldbeaters Skins.		Per ten	\$0.75		
14938.	Graduates.	Conical; with pressed lines and figures.				
	Capacity, oz.	1	2	4	8	16
	Each	.10	.12	.15	.20	.25

GRADUATES

Guaranteed by us to be of finest quality and accurately graduated.

14940. Graduates. Conical; graduated in ounces. (See page 256.)							
Capacity, drams	1	2	oz. ½	1	2	3	
Each	.28	.30	.20	.18	.22	.25	
Capacity, oz.	4	6	8	12	16	32	
Each	.28	.35	.40	.55	.70	1.20	



14940



14942



14948

14942. Graduates. Conical; graduated in cubic centimeters.

Capacity, cc.	5	10	15	30	60	90
Each	.28	.30	.22	.25	.28	.30
Capacity, cc.	120	150	250	350	500	1000
Each	.35	.40	.50	.70	.80	1.40

14944. Graduates. Conical; graduated in ounces and cubic centimeters.

Capacity, drams	1	2	oz. 1/2	1	2	3
Capacity, cc.	5	10	15	30	60	90
Each	.30	.35	.30	.32	.35	.45
Capacity, oz.	4	6	8	12	16	32
Capacity, cc.	120	150	250	350	500	1000
Each	.50	.55	.70	1.00	1.10	1.80

14946. Graduate. Large size; with handle. Graduated with greatest accuracy. Capacity, 1500 cc. (See page 255.) **Each \$1.00**

Graduates, Other Kinds. See CYLINDER.

Grinders. See CRUSHERS.

14948. Haemacytometer, Gower's. For counting red and white blood corpuscles. This apparatus consists of (1) a small pipette which when filled to the mark on the stem holds exactly 995 cubic millimeters, (2) a capillary pipette marked to contain exactly 5 cubic millimeters, and having rubber tube and mouth-piece, (3) a small glass jar in which the dilution is made, (4) a glass stirrer for mix-



14970

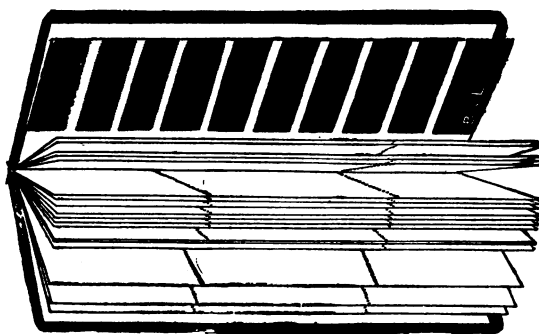


14950, 14966

ing the blood and solution in the glass jar, (5) a brass stage plate carrying a glass slip on which is a cell $\frac{1}{5}$ mm. deep. The bottom of this cell is ruled into $\frac{1}{10}$ mm. squares. Upon the top of the cell rests the cover glass which is kept in place by spring clips. Complete in case with minor accessories including a spear-pointed lancet and full directions for using. **Each, Net \$23.00**

Haemacytometer, Thoma-Zeiss'. This apparatus consists of a graduated mixing pipette and a counting chamber. The pipette is a thick walled capillary tube, very accurately calibrated and graduated, with one end ground to a point and a bulb near the other end in which the blood is properly mixed with the diluting liquid, by means of a small glass bead. The proper amounts of blood and diluent are drawn into the pipette by suction through the mouth-piece and rubber tube. The counting chamber consists of a polished plate glass slide, a finely polished glass slip having a circular opening, and a ruled circular disc inside this opening, both being cemented to the slide. The surface of the disc is exactly $\frac{1}{10}$ mm. below the level of the slip and is ruled into squares, each square having sides of $\frac{1}{20}$ mm. thus covering an area of $\frac{1}{400}$ square millimeter. Two accurately plane and carefully polished cover glasses are provided. The cover glass resting on the surface of the slip forms a chamber over the ruled area having an exact depth of $\frac{1}{10}$ mm. Each set is supplied in velvet lined morocco covered case, with full directions for using.

The haemacytometers listed below will be furnished with Zappert's rulings at same price.



14976

- 14950. **Haemacytometer.** For counting red corpuscles. Each, Net \$10.95
- 14952. **Haemacytometer.** For counting white corpuscles.
Each, Net \$10.95
- 14954. **Haemacytometer.** For counting both red and white corpuscles.
Each, Net \$15.15
- 14956. **Haemacytometer.** Extra mixing pipette graduated for counting red corpuscles. Each, Net \$3.80
- 14958. **Haemacytometer.** Extra mixing pipette graduated for counting white corpuscles. Each, Net \$3.80
- 14959. **Haemacytometer.** Extra counting chamber for leucocytes, after Friedländer. Depth of chamber, 0.222 mm. Each, Net \$8.40
- 14960. **Haemacytometer.** Extra counting chamber with Thoma-Zeiss rulings. Each, Net \$6.30
- 14961. **Haemacytometer.** Extra counting chamber with Turk's rulings. Each, Net \$8.40
- 14962. **Haemacytometer.** Extra counting chamber with Zappert's rulings in which the central square millimeter is surrounded by 8 other undivided squares of the same size. Each, Net \$6.30
- 14963. **Haemacytometer.** Extra counting chamber with Zappert's rulings as described in DaCosta's "Clinical Haematology," page 44. Each, Net \$6.30
- 14964. **Haemacytometer.** Extra cover glasses, plane, polished, 0.4 or 0.6 mm. thick. Each, Net \$0.32
- 14966. **Haemacytometer.** Extra cover glasses, plane, polished, 0.18 mm. thick, cemented to heavy conical glass cells. Each, Net \$0.85
- 14968. **Haemacytometer, Miescher's.** The pipette of this counting apparatus is similar to the mixing pipette of the Thoma-Zeiss haemacytometer, but has polished point and is graduated for three different dilutions, viz., one in one hundred, one in one hundred fifty, and one in two hundred. The counting chamber is the same as that of the Thoma-Zeiss haemacytometer. Complete in case.
Each, Net \$13.45
- 14970. **Haemaglobinometer, Gower's.** For estimating the amount of haemaglobin in blood. Consists of two glass tubes of exactly the same size, one containing a standard tint of normal blood, the other graduated for measuring the amount of haemaglobin; a capillary pipette for measuring the correct amount of blood for the test; a



14978



14980

bottle with pipette stopper for the diluting solution, and a spear-pointed blood lancet. Complete in case, with full instructions for using.

Each, Net \$7.60

- 14972. Haemacytometer and Haemaglobinometer, Gower's.** Sets Nos. 14948 and 14970 complete in one case.

Each, Net \$30.00

- 14974. Haemaglobinometer, Gower's, Simplified Form.** Consists of a sealed tube containing a standardized solution, a graduated comparison tube, a capillary pipette, and cork wood base. Full directions for use accompany each set.

Each, Net \$2.25

- 14975. Haemaglobinometer, Gower's, as Modified by Haldane.** Consists of a sealed tube containing a standard blood solution, a graduated tube for measuring the haemaglobin in the sample tested, a rubber stand for the two tubes, a capillary pipette and suction tube for delivering the proper amount of blood, a bottle with pipette stopper for holding the water required for diluting the blood, a glass vial holding six blood lancets, and a tube and cap for attachment to gas burner to deliver gas for saturating the diluted blood with CO. Full directions for use accompany each set.

Each, Net \$12.50

- 14976. Haemaglobin Scale, Tallquist's.** This haemaglobin test can be used by any one with sufficient accuracy for practical purposes and with a celerity that makes haemaglobin estimation no more of an undertaking than feeling the pulse. It consists of a color scale of ten tints, ranging from ten per cent. to one hundred per cent., bound in book form, pocket size, with fifty sheets of standard filter paper, sufficient for 150 tests. Directions for use accompany each.

Each, Net \$1.50

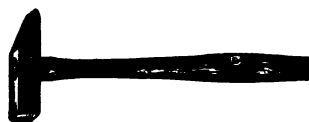
- 14978. Haemaglobin Outfit, Physician's.** For approximate estimation of haemaglobin according to Hammerschlag's specific gravity method. This simple outfit can be carried to the bedside, if desired, and will give sufficiently accurate results for diagnostic purposes. The hydrometer is specially graduated with large graduations between the limits given by Hammerschlag's table. The outfit consists of a special hydrometer, a hydrometer jar, a mixing jar, a glass stoppered bottle, a stirring rod, two dropping bottles, and is furnished complete with directions and table in a carrying case.

Each \$5.00

- 14980. Haemometer, Fleischl's.** For measuring the percentage of haemaglobin in blood. The standard of comparison in this instrument is a tinted wedge of glass mounted movably beneath the stage. In



14986



14988



14984

the center of the stage is a circular opening in which rests a metal tube having a vertical partition and glass bottom. One-half of this tube is directly over the tinted wedge, and when the instrument is in use is filled with distilled water; the other half of the tube is for the mixture of blood and water. The frame bearing the tinted wedge has a scale from which percentages of haemaglobin are read directly and is moved back and forth underneath the tube by rack and pinion so that comparisons are readily and accurately made. Only a small quantity of blood is required and results are obtained easily and quickly. Complete in case with handle and lock.

Each, Net \$24.00

14981. Capillary Tubes for above Haemometer. When ordering state capacity. Each, Net \$0.30

14982. **Haemometer, Fleischl's.** As modified by **Miescher**. The utility and accuracy of this instrument have been increased by the modifications which consist in using a dilute solution of a known degree of concentration and a definite depth of fluid in the cell. A mixing pipette is employed which gives better results than the aspirating capillary pipettes. The most advantageous sections of the wedge may be used, which contributes to the accuracy of the method and furnishes additional means of verification. The test solutions are made independently of the instrument, hence the latter may be standardized to read absolute percentage of haemaglobin and is devoid of all dependence on the so-called normal blood standard. The cell is of improved type and provided with diaphragms and covers. Detailed directions for setting up and adjusting the instrument, and for its calibration (including table), are furnished. Complete outfit, including two cells and a mixing pipette, in case.

Each, Net \$50.00

Haematokrit. See CENTRIFUGES.

14984. **Hammers.** Of solid cast steel; wedge-shape; for breaking ores.

Weight, grams	60	120	210	300	450	540	780
Each	.40	.45	.50	.60	.70	.80	.90

14986. **Hammers, Mineralogical, Dana's.** Of solid cast steel; edge parallel to handle.

Weight, grams	400	600	800
Each	.75	1.00	1.25

14988. **Hammers, Mineralogical, Dana's.** Of solid cast steel; edge at right angle to handle.

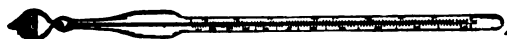
Weight, grams	400	600	800
Each	.60	.75	.90



15108



15080



15082



15008

14990. Hammer, Blowpipe, Colton's. With wire handle. Each \$0.75

14992. Hammer, Blowpipe, Plattner's. With wooden handle. Each \$0.60

Handles for Files. See FILE HANDLES.

Holder for Triangle. See PLATINUM TRIANGLES.

Homoeopathic Vials. See VIALS.

Hones. See DISSECTING INSTRUMENTS.

Hour Glasses. See SAND GLASSES.

HYDROMETERS

We offer below a line of hydrometers which are especially suited for scientific work. They are made under our own supervision and therefore we can guarantee them to be accurate and at least equal to other hydrometers on the market. Our aim is to offer hydrometers of the very best grade and of a range wide enough to accommodate all kinds of work.

14994. Hydrometers, Baume's Scale. For liquids lighter than water.

Scale,	30° to 10°	50° to 10°	70° to 10°	90° to 10°
Divisions	1/10°	1/10°	1/2°	1°
Each	1.00	1.00	1.00	1.00

14996. Hydrometers, Baume's Scale. With thermometer.

Scale,	30° to 10°	50° to 10°	70° to 10°	90° to 10°
Divisions	1/10°	1/10°	1/2°	1°
Each	1.75	1.75	1.75	1.75

14998. Hydrometers, Baume's Scale. For liquids heavier than water.

Scale	0 to 10°	0 to 15°	0 to 15°	0 to 70°	0 to 100°
Divisions	1/10°	1/10°	1°	1°	1°
Each	1.00	1.00	.75	1.00	1.10
Scale	5° to 15°	15° to 30°	30° to 50°	50° to 70°	
Divisions	1/10°	1/10°	1/10°	1/10°	
Each	1.00	1.00	1.00	1.00	

15000. Hydrometer, Acid, Baume's Scale; American Standard. Scale 0 to 70° in divisions of 1°. Length, 300 mm. Each \$0.40

15002. Hydrometer, Alcohol, Gay-Lussac's. Best quality: graduated 0 to 100° in degrees. Each \$0.40

15004. Hydrometer, Alcohol, Gay-Lussac's. With thermometer. Each \$1.00
15006. Hydrometers, Alcohol, Richters and Tralle's Scales. With percentage thermometer.
- | | | | |
|-----------|-----------|-------------|-------------|
| Scale | 0 to 100° | 30° to 100° | 70° to 100° |
| Divisions | 1° | ½° | ½° |
| Each | .80 | 1.00 | 1.00 |
15008. Hydrometer, Alcohol, U. S. Customs House Standard. With Tralle's and Proof Mark scales; graduated 0 to 100°. With thermometer. Each \$2.00
15010. Hydrometer, Alcohol, U. S. Internal Revenue Standard. Set of five. Per set \$27.00
15012. Hydrometer, Alcohol, U. S. Internal Revenue Standard. With copper can and thermometer; in wooden case. Per set \$45.00
15014. Hydrometer, Alkali. Baume's scale; graduated 0 to 50° in degrees. Each \$0.40
15016. Hydrometer, Ammonia. Baume's scale. Each \$0.40
15018. Hydrometer, Bark (Tannometer). Specific gravity scale 1.000 to 1.060. Each \$0.40
15020. Hydrometer, Bark (Tannometer). With thermometer. Each \$1.75
15022. Hydrometer, Battery. Baume's scale; 100 mm. long. Each \$0.60
15024. Hydrometer, Beer, Balling's. Showing per cent. to 1/10. Each \$0.80
15026. Hydrometer, Beer, Balling's. With thermometer. Each \$1.75
15028. Hydrometer, Beer and Wort, Kaiser's. Graduated 0 to 25° in ¼°. Each \$0.40
15030. Hydrometer, Beer and Wort, Kaiser's. With thermometer. Each \$1.00
15032. Hydrometer, Benzine. Baume's scale. Each \$0.60
15034. Hydrometer, Chlorine. Baume's scale. Each \$0.40
15036. Hydrometer, Cider. Baume's scale. Each \$0.40
15038. Hydrometer, Coal Oil. Graduated 30° to 50° in degrees. Each \$0.40
15040. Hydrometer, Coal Oil. With thermometer. Each \$1.00
15042. Hydrometer, Ether. Baume's scale; graduated 35° to 70° in degrees. Each \$0.40
15044. Hydrometer, Ether. With thermometer. Each \$1.00
15046. Hydrometer, Gasoline. Baume's scale; graduated 10° to 90°. Each \$0.60
15048. Hydrometer, Glycerine. Baume's scale; graduated 25° to 30°. Each \$0.50
- Hydrometer, Milk. See MILK TESTING APPARATUS: LACTOMETER.
15050. Hydrometer, Naphtha. Baume's scale; graduated 40° to 100°. Each \$0.60

Hydrometers, Normal. For determining specific gravity from 0.700 to 1.850; accurate to fourth decimal. Length, 350 mm.

		1 0.700 to 0.760	2 0.760 to 0.820	3 0.820 to 0.880
15052.	Without therm't'r, Each	2.50	2.50	2.50
15054.	With therm't'r, Each	3.00	3.00	3.00
		4 0.880 to 0.940	5 0.940 to 1.000	6 1.000 to 1.060
	Without therm't'r, Each	2.50	2.50	2.50
	With therm't'r, Each	3.00	3.00	3.00
		7 1.060 to 1.120	8 1.120 to 1.180	9 1.180 to 1.240
	Without therm't'r, Each	2.50	2.50	2.50
	With therm't'r, Each	3.00	3.00	3.00
		10 1.240 to 1.300	11 1.300 to 1.360	12 1.360 to 1.420
	Without therm't'r, Each	2.50	2.50	2.50
	With therm't'r, Each	3.00	3.00	3.00
		13 1.420 to 1.480	14 1.480 to 1.540	15 1.540 to 1.600
	Without therm't'r, Each	2.50	2.50	2.50
	With therm't'r, Each	3.00	3.00	3.00
		16 1.600 to 1.660	17 1.660 to 1.720	18 1.720 to 1.780
	Without therm't'r, Each	2.50	2.50	2.50
	With therm't'r, Each	3.00	3.00	3.00
		19 1.780 to 1.850		
	Without therm't'r, Each	2.50		
	With therm't'r, Each	3.00		

15056. Hydrometers, Normal. Set of nineteen hydrometers same as No. 15052 in case with single thermometer. **Per set \$50.00**

15058. Hydrometers, Normal. Set of nineteen hydrometers same as No. 15054 in case. **Per set \$60.00**

Hydrometers, Normal. For small quantities of fluids; give specific gravity accurately to third decimal. Length, 150 to 160 mm.

		1 0.700 to 0.760	2 0.760 to 0.820	3 0.820 to 0.880
15060.	Without therm't'r, Each	1.50	1.50	1.50
15062.	With therm't'r, Each	2.15	2.15	2.15

Scale	4 0.880 to 0.940	5 0.940 to 1.000	6 1.000 to 1.060
Without therm't'r, Each	1.50	1.50	1.50
With therm't'r, Each	2.15	2.15	2.15

Scale	7 1.060 to 1.120	8 1.120 to 1.180	9 1.180 to 1.240
Without therm't'r, Each	1.50	1.50	1.50
With therm't'r, Each	2.15	2.15	2.15

Scale	10 1.240 to 1.300	11 1.300 to 1.360	12 1.360 to 1.420
Without therm't'r, Each	1.50	1.50	1.50
With therm't'r, Each	2.15	2.15	2.15

Scale	13 1.420 to 1.480	14 1.480 to 1.540	15 1.540 to 1.600
Without therm't'r, Each	1.50	1.50	1.50
With therm't'r, Each	2.15	2.15	2.15

Scale	16 1.600 to 1.660	17 1.660 to 1.720	18 1.720 to 1.780
Without therm't'r, Each	1.50	1.50	1.50
With therm't'r, Each	2.15	2.15	2.15

Scale	19 1.780 to 1.850
Without therm't'r, Each	1.50
With therm't'r, Each	2.15

15064. **Hydrometers, Normal.** Set of nineteen hydrometers same as No. 15060 in case with single thermometer. **Per set \$30.00**

15066. **Hydrometers, Normal.** Set of nineteen hydrometers same as No. 15062 in case. **Per set \$43.00**

15068. **Hydrometer, Oil.** For fatty oils. **Each \$0.80**

15070. **Hydrometer, Oil.** With thermometer. **Each \$2.00**

15072. **Hydrometer, Salt Solution (Salimeter).** Baume's scale 0 to 50°. **Each \$0.40**

15074. **Hydrometer, Silver Solution.** Baume's scale 6° to 30°. **Each \$0.40**

Hydrometers, Specific Gravity. For liquids lighter than water.

	Scale	0.600 to 0.800	0.700 to 0.850	0.700 to 1.000
15076.	Without therm't'r, Each	.60	.60	.60
15078.	With therm't'r, Each	1.25	1.25	1.25
	Scale	0.850 to 1.000		
	Without therm't'r, Each	.60		
	With therm't'r, Each	1.25		

Hydrometers, Specific Gravity. For liquids heavier than water.

Scale	1.000 to 1.200	1.200 to 1.400	1.400 to 1.600
15080. Without therm't'r, Each	.80	.80	.80
15082. With therm't'r, Each	1.50	1.50	1.50
Scale	1.600 to 1.800	1.800 to 2.000	1.000 to 1.500
Without therm't'r, Each	.80	.80	.80
With therm't'r, Each	1.50	1.50	1.50
Scale	.000 to 2.000	1.500 to 2.000	
Without therm't'r, Each	.80	.80	
With therm't'r, Each	1.50	1.50	

15084. **Hydrometer, Specific Gravity and Baume's Scales.** For liquids lighter than water. Specific gravity scale, 0.700 to 1.000. Each \$0.00

15086. **Hydrometer, Specific Gravity and Baume's Scales.** With thermometer. Each \$1.20

15088. **Hydrometer, Specific Gravity and Baume's Scales.** For liquids heavier than water. Specific gravity scale, 1.000 to 2.000. Each \$0.60

15090. **Hydrometer, Specific Gravity and Baume's Scales.** With thermometer. Each \$1.50

15092. **Hydrometer, Sugar, Balling's.** Baume's scale, 0 to 70° in degrees. Each \$0.80

15094. **Hydrometer, Sugar, Balling's.** With thermometer. Each \$2.00

15096. **Hydrometers, Sugar, Brix'.** A set of three hydrometers with scales reading 0 to 30°, 30° to 60°, and 60° to 100° in half degrees. Per set \$2.25

15098. **Hydrometers, Sugar, Brix'.** No. 15096, with thermometers. Per set \$4.25

15100. **Hydrometers, Sugar, Brix'.** A set of three hydrometers with scales reading 0 to 30°, 30° to 60°, and 60° to 100° in fifths. Per set \$3.75

15102. **Hydrometers, Sugar, Brix'.** No. 15100, with thermometers. Per set \$6.25

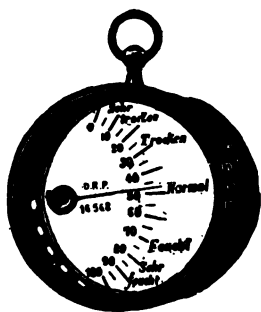
15104. **Hydrometers, Sugar, Brix'.** A set of three hydrometers with thermometers and scales reading 5° to 10°, 10° to 20°, 20° to 30° in tenths. Made of Jena glass. Per set \$12.00

15106. **Hydrometers, Sugar and Syrup.** Baume's scale graduated in degrees.

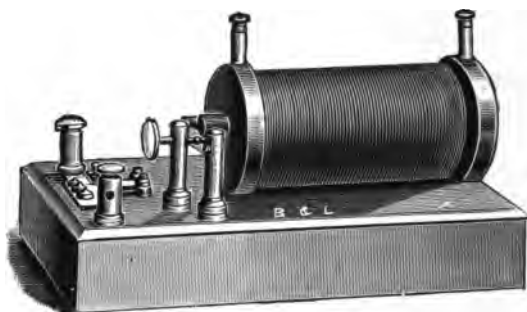
Scale	0 to 20°	0 to 50°
Each	.40	.45

15108. **Hydrometers, Twaddell's.** According to the Twaddell system the degree marks multiplied by 5 and added to 1.000 gives specific gravity.

	1	2	3
Scale	0 to 24°	24° to 48°	48° to 72°
Each	.35	.35	.35
	4	5	6
Scale	72° to 100°	100° to 134°	134° to 180°
Each	.40	.40	.40



15120



15124

15110. Hydrometers, Twaddell's. Small size.

	1	2	3
Scale	0 to 24°	24° to 48°	48° to 72°
Each	.35	.35	.35
	4	5	6
Scale	72° to 100°	100° to 134°	134° to 180°
Each	.40	.40	.40

15112. Hydrometer, Vinegar. Baume's scale. Each \$0.40

15114. Hydrometer, Wine and Must. Oechsle's. With brass weight. Each \$0.80

Hydrometer Jars. See CYLINDERS.

Hydrostatic Balance. See BALANCES.

15116. Hygrometer, Daniell's. Each \$5.30

15118. Hygrometer, Mason's. Each \$2.50

15120. Hygrometers, Mithof's. For determining the amount of moisture in the air. In metal case.

Diameter, mm.	50	80
Each	2.25	2.75

15122. Hygrometers, Mithof's. Watch form; in case. Each \$3.25

Ignition Tubes. See TUBES.

Incubators. See BACTERIOLOGICAL CATALOGUE.

15124. Induction Coils, Ruhmkorff's. Primary and secondary helices, with condenser and adjustable vibrator on base.

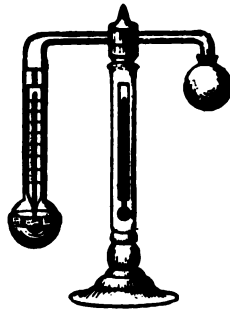
Length of spark (approx.) mm.	6	9	12	15	18
Each	6.00	9.00	12.00	15.00	18.00
Length of spark (approx.) mm.	25	30	38	50	
Each	27.50	35.00	45.00	50.00	

Ingot Moulds. See MOULDS.

15126. Ink, Diamond. For writing on glass; 25 grams in gutta percha bottle. Per bottle \$0.50



15118



15116



15132



15138



15136



15140

15128. Ink, Higgins'. Black; waterproof; in quill-stoppered bottle.

Each, Net \$0.25

15130. Ink, Higgins'. Red.

Each, Net \$0.25

15132. Jars, Aquarium. Of heavy, clear white glass; with ground rim and groove near top.

Capacity, liters	2	4	6	8	16	32
Height, mm.	135	160	195	210	280	350
Diameter, mm.	145	200	230	250	300	380
Each	.30	.60	.75	1.00	2.40	5.00

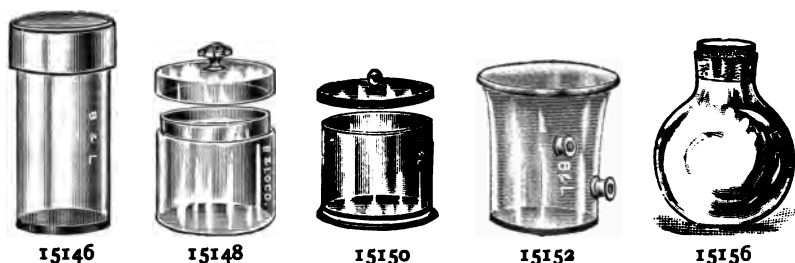
15134. Jars, Aquarium. Oblong; of heavy, clear white glass.

Capacity, liters	10	20
Length, mm.	270	330
Height, mm.	270	330
Width, mm.	165	200
Each	2.80	5.75

Jars, Battery. See BATTERY JARS.

15136. Jars, Culture, Novy's. For tube cultures of anaerobic bacteria by gas or pyrogallate methods. Consists of a glass jar with inlet and outlet tubes in neck, and hollow stopper, having tube reaching to bottom of jar and handle for turning, ground into neck. See Journal of Applied Microscopy, Vol. II., No. 2.

Height, mm.	150	200
Diameter, mm.	80	100
Each	2.50	3.00



- 15138. Jar, Culture, Novy's.** For plate cultures of anaerobic bacteria by gas or pyrogallate methods. Similar in construction to No. 15136 but in two sections to permit the use of Petri dishes. The sections have wide ground flanges which with rubber band between form air-tight connection being held by three metal clamps. This jar may also be used as a desiccator for drying in a current of hydrogen or other gases. Lower section; height, 150 mm.; diameter, 140 mm. See Journal of Applied Microscopy, Vol. II, No. 2. Complete with rubber band and three clamps. (See page 267.)

Each \$5.75

- 15140. Jar, Culture, Novy's Improved.** For plate cultures of anaerobic bacteria by vacuum, gas, or pyrogallate methods. The feature of excellence over other jars is the addition of a stop cock supported horizontally by glass tubes on the regular stopper which relieves the latter from pressure and allows the vacuum method to be easily employed. Otherwise same as No. 15138. Complete with band and three clamps. (See page 267.)

Each \$7.50

- 15142. Jar, Culture, Novy's Improved.** Bands, of rubber, for above culture jars.

Each \$0.15

- 15144. Jar, Culture, Novy's Improved.** Clamps for above culture jars.

Each \$0.25

- 15146. Jars, Cylinder.** Of clear white glass; with flat bottom, ground rim, and loosely fitting cover.

Height, mm.	130	180	180
Diameter, mm.	65	80	100
Each	.28	.45	.60

- 15148. Jars, Cylinder.** Of heavy, clear white glass; with loosely fitting cover, and cut and polished knob. These are very fine jars.

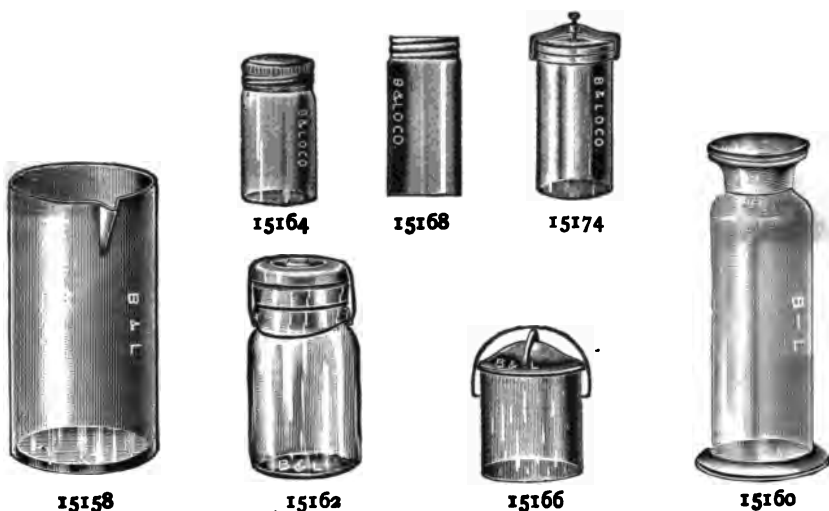
Height, mm.	100	120	150	210	260
Diameter, mm.	100	120	150	210	260
Each	.90	1.10	1.55	2.50	3.40

- 15150. Jars, Cylinder.** Of heavy, clear white glass; with foot, polished rim, and loosely fitting cover.

Height, mm.	100	120	150	210	260
Diameter, mm.	100	120	150	210	260
Each	.70	.90	1.25	2.00	3.00

- 15152. Jars, Decanting.** Of heavy, clear white glass; with three tubulatures.

Capacity, liters	2	4
Each	1.25	1.50



15154. Jars, Decanting. Of porcelain; with eight tubulatures.

Capacity, liters	4	8	12
Each	3.50	5.00	7.00

15156. Jar, Embryo. Blown from glass tubing, extra quality; with cork stopper. Capacity, 15 cc. Per ten \$1.00

Jars, Hydrometer. See CYLINDERS.

Jars, Nessler. See COLORIMETRIC DETERMINATION APPARATUS.

15158. Jars, Precipitating. With pour-out.

Capacity, cc.	125	250	500	liters 1	2	4	6	10
Each	.15	.25	.35	.50	.65	1.20	1.80	2.70

15160. Jars, Preparation. Of clear white glass; with foot, neck, and ground glass stopper.

Height, mm.	80	100	120	150	180	200
Diameter, mm.	30	30	40	50	60	80
Each	.25	.35	.35	.50	.65	.75

15162. Jars, Preservation (Lightning).

Capacity, cc.	500	750	1000	2000
Each	.14	.15	.16	.20

15164. Jars, Preservation. Of clear white glass; with glass cover fitting air-tight, by rubber band and held in place by metal ring with flange which screws down upon cover. A good jar for collecting and preserving museum specimens and anatomical material.

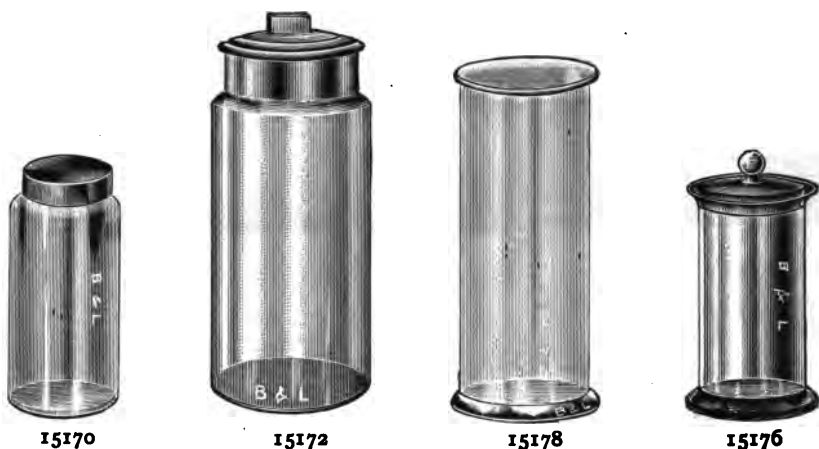
Capacity, cc.	250	500	1000	2000
Each	.08	.12	.14	.20

15166. Jars, Preservation. Of clear white glass; with mouth of jar same size as body. The cover is of glass, fitting air-tight by rubber band and held by spring clamp.

Capacity, cc.	30	200	250	400	600
Per ten	.65	.85	.90	1.20	1.85

15168. Jars, Screw Capped. Of clear white glass; with metal, screw cover.

Capacity, cc.	30	60	120	250	500
Per ten	.40	.50	.75	.85	1.05



15170. Jars, Specie. With lacquered tin cover.

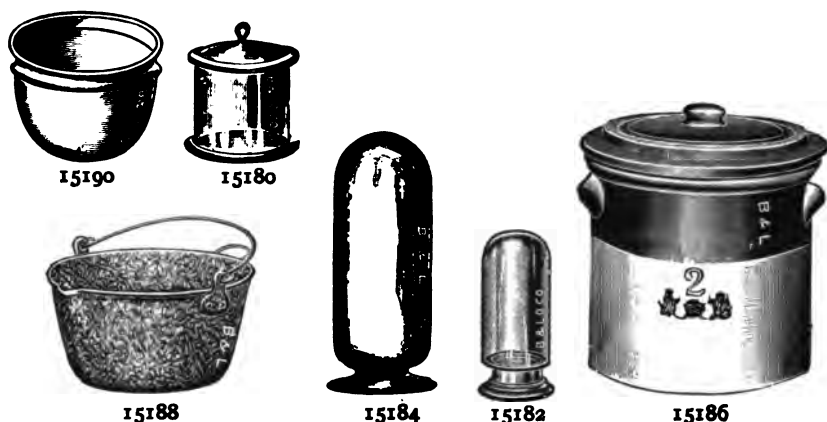
Capacity, cc.	50	1000	2000	4000
Each	.18	.25	.35	.50

15172. Jars, Specimen. Of clear white glass; with extra wide mouth. Glass stopper carefully ground-in.

Capacity to neck, cc.	45	75	90	150	180	250	330
Diam. of mouth, mm.	30	30	40	40	40	50	50
Diam. of body, mm.	40	40	50	50	50	65	65
Height to shoulder, mm.	50	75	65	95	125	90	125
Height to top of stop'r, mm.	90	115	110	140	170	140	175
Each	.21	.22	.24	.26	.30	.33	.35
Capacity to neck, cc.	500	420	600	850	870	1200	1560
Diam. of mouth, mm.	50	65	65	65	75	75	75
Diam. of body, mm.	65	75	75	75	95	95	95
Height to shoulder, mm.	175	100	150	200	150	200	250
Height to top of stop'r, mm.	225	160	210	260	215	265	315
Each	.38	.42	.45	.52	.58	.75	.90
Capacity to neck, cc.	1140	1860	2760	2880	4200	5000	6360
Diam. of mouth, mm.	90	90	90	125	125	125	125
Diam. of body, mm.	115	115	115	150	150	150	150
Height to shoulder, mm.	125	200	300	175	250	300	375
Height to top of stop'r, mm.	195	270	375	250	330	380	460
Each	.75	.90	1.12	1.35	1.72	2.00	2.30

15174. Jars, Specimen. Mouth same size as body; with rubber band and metal clamp, and two glass suspension rings on under side of glass cover.

Capacity (approx.), cc.	250	375	500	750	1125	875	1250
Width of mouth, mm.	55	55	55	55	55	90	90
Height, without cover, mm.	100	150	200	300	450	150	200
Each	.36	.40	.44	.50	.62	.64	.72
Capacity (approx.), liters		2	3	2 $\frac{3}{4}$	4	5	6
Width of mouth, mm.		90	90	130	130	130	130
Height, without cover, mm.		300	450	200	300	375	450
Each		.82	1.00	1.12	1.25	1.38	1.55



Capacity (approx.), liters	4	6	4½	6	9	11
Width of mouth, mm.	160	160	195	195	195	195
Height, without cover, mm.	200	300	150	200	300	375
Each	1.45	1.65	2.00	2.15	2.50	2.70
Capacity (approx.), liters	14	18	28	17	29	40
Width of mouth, mm.	195	195	195	295	295	295
Height, without cover, mm.	450	600	900	300	450	600
Each	2.95	3.40	5.95	7.15	8.95	10.70

15176. Jars, Specimen. Of clear white glass, free from imperfections; with foot, lip, and stopper-like cover ground in air-tight.

Height, mm.	100	120	120	130	150	180
Diameter, mm.	75	30	50	75	100	120
Each	.50	.35	.45	.60	1.00	1.25

15178. Jars, Specimen. Of heavy clear white glass; with ground flange.

Height, mm.	80	100	120	120	130
Diameter, mm.	25	40	30	50	75
Each	.12	.15	.16	.20	.40
Height, mm.	150	180	230	300	
Diameter, mm.	100	120	180	250	
Each	.60	.75	1.50	3.50	

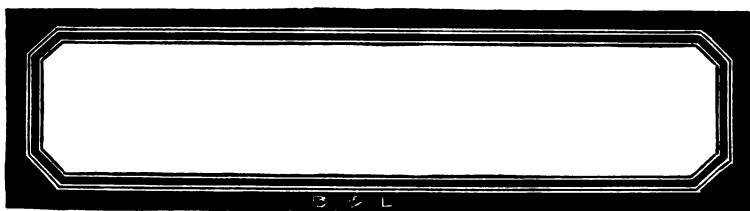
15180. Jars, Specimen. Of heavy, clear white glass; with carefully ground, air-tight cover.

Height, mm.	80	130	150	180	250
Diameter, mm.	140	100	200	180	220
Each	1.15	.90	3.00	2.50	4.50

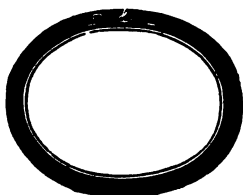
15182. Jars, Specimen. Inverted form; of clear white glass; with carefully ground, air-tight stopper which serves as pedestal on which the jar rests.

Height, mm.	130	190	220	320
Diameter, mm.	50	80	100	120
Each	.40	1.00	1.15	1.90

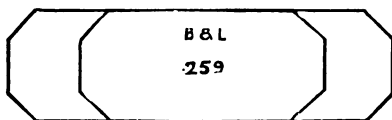
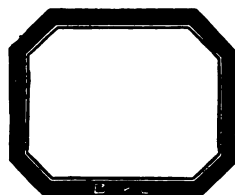
15184. Jars, Specimen. Inverted form; similar in form to No. 15182 but of ordinary quality; for cork stopper.



15204



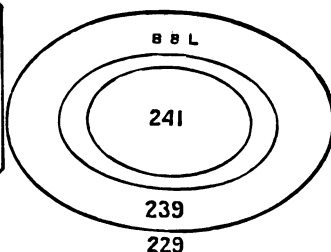
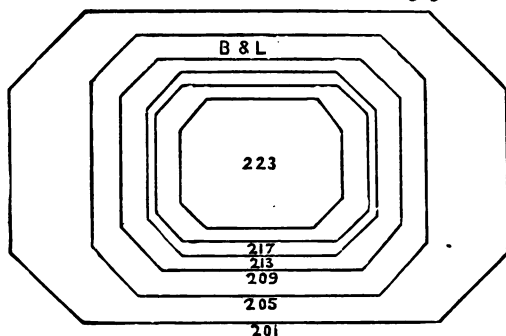
219



259

261

15198



15198

Height, mm.	95	110	150	195	230	280	355
Diameter, mm.	40	50	65	70	90	110	145
Each	.10	.13	.15	.20	.30	.50	1.00

15186. Jars, Stone. For refuse; with two handles and cover.

Capacity, liters	8	16	24	30	40
Each	.70	1.20	1.70	2.00	2.50

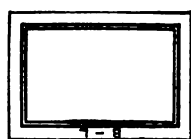
Jars, Staining. See STAINING JARS.

15188. Kettles, Agateware. With cover. (See page 271.)

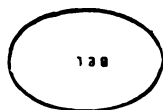
Capacity, liters	3	4	5	6
Each	.60	.70	.75	.90

15190. Kettles, Porcelain. Glazed inside. (See page 271.)

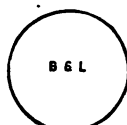
Capacity, liters	7	12	20
Height, mm.	200	270	330
Diameter, mm.	270	315	350
Each	3.75	6.00	12.00



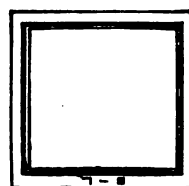
15208



15210



15212



15206

Kjeldahl Apparatus. See GAS APPARATUS FOR NITROGEN DETERMINATION.

15192. Knife, Amalgam. For cleaning amalgam plates; with handle; blade 75 mm. wide. **Each \$0.70**

15194. Knife, Cork. For cutting cork. **Each \$0.15**

15196. Knife, Potato. **Each \$0.15**

15198. Labels, Gummed. Of superior quality; printed on white paper, with red border.

Number	223	217	213	209	205	201
Length, mm.	20	25	30	35	45	65
Width, mm.	15	20	25	28	35	40
Per twelve boxes	.66	.66	.66	.66	.66	.66
Number	259	261	219	241	239	229
Length, mm.	33	50	40	22	30	42
Width, mm.	15	15	20	15	18	30
Per twelve boxes	.66	.66	.66	.66	.66	.66

15200. Labels, Gummed. In books. Gummed labels, with red border and rounded corners; in sheets, perforated, bound in book form. Size of sheet, 210 x 120 mm.

Numbers	225	223	221	219	217
Labels, per book	1575	1400	1050	750	750
Per book	.35	.35	.35	.35	.35
Numbers	213	209	205	201	
Labels, per book	750	500	300	225	
Per book	.35	.35	.35	.35	

Labels, Microscopical. Best white gummed paper. In boxes of 100 labels.

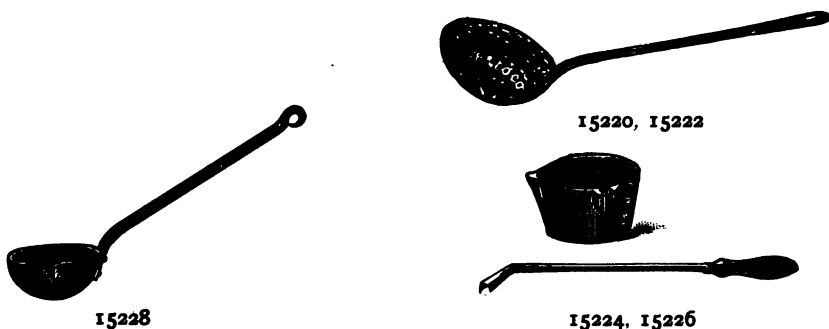
15206. Labels, Microscopical. Square. Size, 22 mm. **Per thousand \$0.75**

15208. Labels, Microscopical. Rectangular. Size, 22 x 15 mm. **Per thousand \$0.75**

15210. Labels, Microscopical. Oval. Size, 20 x 14 mm. **Per thousand \$0.75**

15212. Labels, Microscopical. Circular. Diameter, 16 mm. **Per thousand \$0.75**

Labels, Microscopical. In books of 500 labels each. These labels are printed on best white gummed paper, same as Nos. 15206 and



15208, and are scored so as to be readily torn from the book, leaving clean edges. Interleaved with paraffin paper. They are much more convenient than the cut labels.

15214. Labels, Microscopical. Square. Same as No. 15206.
Per book \$0.30

15216. Labels, Microscopical. Rectangular. Same as No. 15208.
Per book \$0.30

15218. Label Book. Contains the names and formulæ of the most used chemicals and reagents. Printed on good paper, gummed and perforated, and bound in book form.
Per book \$0.40

Lactoscopes, Lactobutyrometers, Lactometers, etc. See MILK TESTING APPARATUS.

15220. Ladles, Agateware. Agate nickel-steel; snipe lipped. Diameter, 110 mm.; depth, 40 mm.
Each \$0.40

15222. Ladles, Agateware. Flint enameled; acid proof.
Each \$0.60

15224. Ladles, Melting. Of cast iron. Especially adapted to Furnace No. 14538. One handle fits the three different sizes. Prices are for ladles without handles.

Diameter, mm.	100	105	110
Depth, mm.	55	65	65
Each	.30	.42	.48

15226. Ladles, Melting. Handle for No. 15224.
Each \$0.30

15228. Ladles, Wrought Iron. With lip.

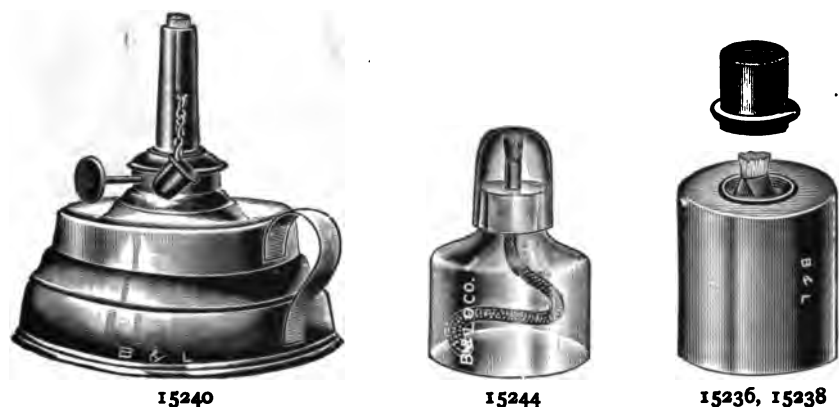
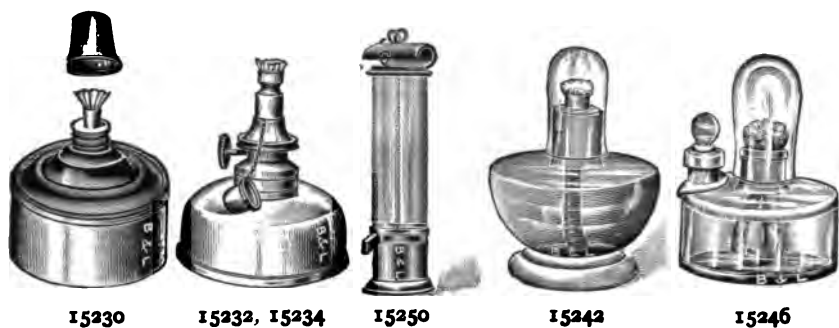
Diameter, mm.	65	75	100	125	150
Each	.25	.30	.35	.60	.85

15230. Lamps, Alcohol. Of polished brass; with screw top and metal cap.

Capacity, cc.	60	125	250
Each	.45	.50	.55

15232. Lamps, Alcohol. Of polished brass; with screw top, metal cap, and ratchet burner.

Capacity, cc.	125	200
Each	.40	.45



15234. Lamps, Alcohol. Nickel plated.

Capacity, cc.	125	200
Each	.50	.55

15236. Lamps, Alcohol. For blowpiping. Made of polished brass. Wick-holder lifts out and can be adjusted to any angle. **Each \$0.85**

15238. Lamps, Alcohol. Nickel plated. **Each \$0.95**

15240. Lamps, Alcohol. Of brass. Capacity, 200 cc., wick included. **Each \$0.20**

15242. Lamps, Alcohol. Bowl shape; with foot. Of clear white glass, with metal burner and glass cap ground on. Wick included.

Capacity, cc.	30	60	100	150
Each	.40	.45	.50	.55

15244. Lamps, Alcohol. Cylindrical. Of clear white glass, with metal burner and glass cap ground on. Wick included.

Capacity, cc.	30	60	100	150
Each	.40	.45	.50	.55

15246. Lamps, Alcohol. Cylindrical. Of glass, with metal burner and glass cap ground on. Side tube, with glass stopper for filling.

Capacity, cc.	30	60	100	150
Each	.50	.55	.60	.65



15252



15254



15248



15260

15248. Lamps, Alcohol. Of glass, with metal burner and metal cap. The shape is such that the lamp may be set at various angles. Wick included.

Capacity, cc.	40	120	120
Diameter of burner, mm.	5	7	12
Each	.70	.85	1.00

15250. Lamp, Davy's Safety, or Miners'. Of Brass. (See page 275.)

Each \$5.00

15252. Lamp, Doebereiner's Hydrogen.

Each \$3.50

15254. Lamps, Parting. For alcohol. Designed by H. W. Leavens, and made of galvanized iron; very strong; with ratchet burners and shelves for sand bath and annealing cups; upper shelf perforated for holding test tubes.

Number of burners	6	8	12
Each	3.75	4.30	5.40

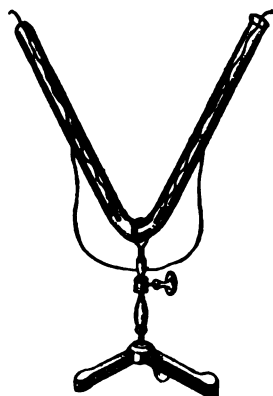
15256. Lamps, Parting. Same as No. 15254, but without upper shelf, so as to admit use of flasks instead of test tubes, and with hood and pipe attached for carrying off fumes.

Number of burners	6	8	12
Each	4.50	5.50	7.50

15258. Lamp, Welsbach. Consists of brass frame to attach to gas pipe, mantle, and glass chimney. This is the genuine Welsbach lamp.

Each \$0.80

15260. Lamp, Welsbach. The Welsbach light, being very brilliant, steady, and white, is especially adaptable to microscopical work where an artificial light is required. This lamp consists of a support, with neatly japanned base, to which the burner is attached by adjustable clamp; the burner may thus be adjusted to any desired height or angle. Around the burner is a black metal chimney, shielding



15270



15256

the eyes from the intense glare of the light, and provided with a bulls-eye lens so adjusted as to project a beam of parallel rays onto the microscope mirror. Height of support, 200 mm.; diameter of bulls-eye lens, 40 mm. Complete, with metal chimney and bulls-eye lens.

Each \$6.00

15262. Lamp, Welsbach. Without bulls-eye lens.

Each \$4.50

15264. Lamp, Welsbach. Mantles for Nos. 15260 and 15262.

Each \$0.25

Lamps, Other Forms. See BURNERS, BLAST LAMPS, AND STOVES.

15266. Lamp Wicking. A wick of any size is obtained by using the requisite number of strands.

Per bundle \$0.05

Lead Baskets. See BASKETS.

Lead Dishes. See DISHES.

Lead Foil. See FOIL.

15268. Lead Shot. For cleaning bottles.

Per five hundred grams, Net \$0.10

LECTURE APPARATUS, HOFFMAN'S

We list below the most salable of Prof. Hofmann's apparatus, but will supply any piece not listed on order. See his "Introduction to Modern Chemistry."

Any other form of lecture apparatus will be furnished on order.

Prices on application.

15270. Apparatus for the electrolytical decomposition of hydrochloric acid, water and ammonia. Complete with platinum electrodes and support.

Each \$6.25

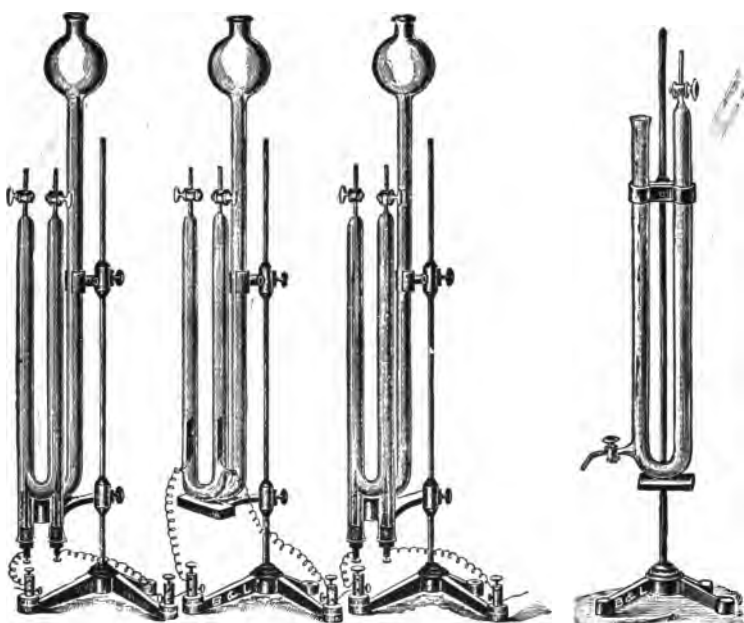
15272. Glass parts only, for No. 15270.

Each \$3.00

15276. Apparatus for the simultaneous electrolytical decomposition of hydrochloric acid, water and ammonia, to show that one volume of hydrogen is combined with one volume of chlorine in hydrochloric acid, with one-half volume of oxygen in water, and with one-third volume of nitrogen in ammonia. Complete, with supports.

Each \$42.00

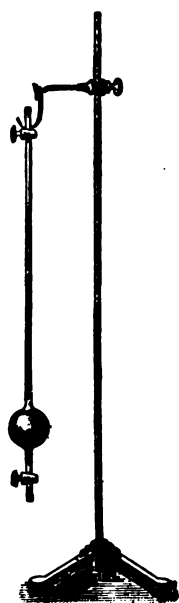
New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



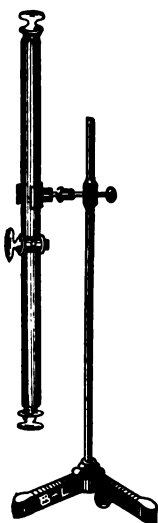
15276-15282

15284, 15286

- | | | |
|---|------|---------|
| 15278. Tube with two stop cocks and platinum electrodes. | Each | \$5.00 |
| 15280. Tubes with carbon electrodes. | Each | \$5.25 |
| 15282. Supports, with binding screws for the poles. | Each | \$9.00 |
| 15284. Apparatus for determining the quantity of hydrogen in one volume of hydrochloric acid. Complete, with support. | Each | \$7.00 |
| 15286. Glass parts only, for No. 15284. | Each | \$4.00 |
| 15290. Apparatus for demonstrating that one volume of chlorine combined with one volume of hydrogen produces hydrochloric acid. Complete, without battery. | Each | \$11.50 |
| 15292. Tube with two stop cocks. | Each | \$3.00 |
| 15294. Decomposing cell. | Each | \$5.00 |
| 15296. Calcium chloride cylinder. | Each | \$0.75 |
| 15298. Cylinder with enlarged top. | Each | \$1.50 |
| 15300. Apparatus for demonstrating that by the combination of hydrogen and chlorine to form hydrochloric acid there is no alteration of volume, i. e., that from one volume of hydrogen and one volume of chlorine two volumes of hydrochloric acid are produced. Complete, with support. | Each | \$5.25 |



15300, 15302



15306



15310



15312

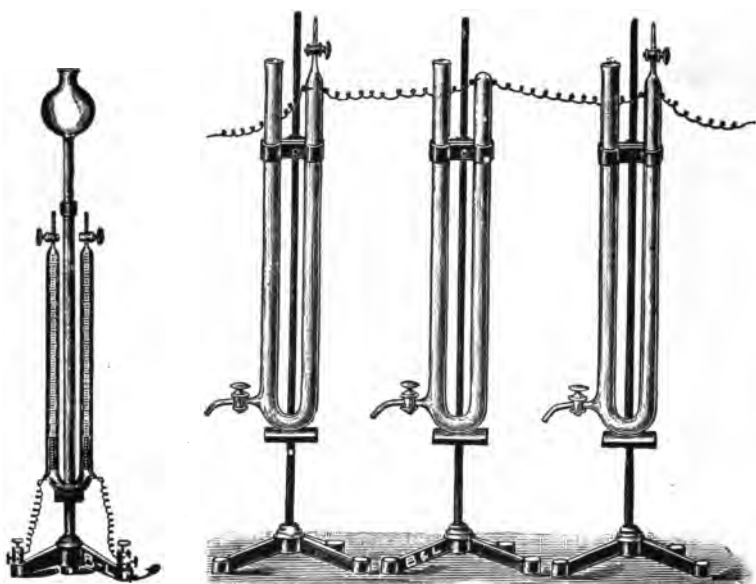


15290-15298



15316

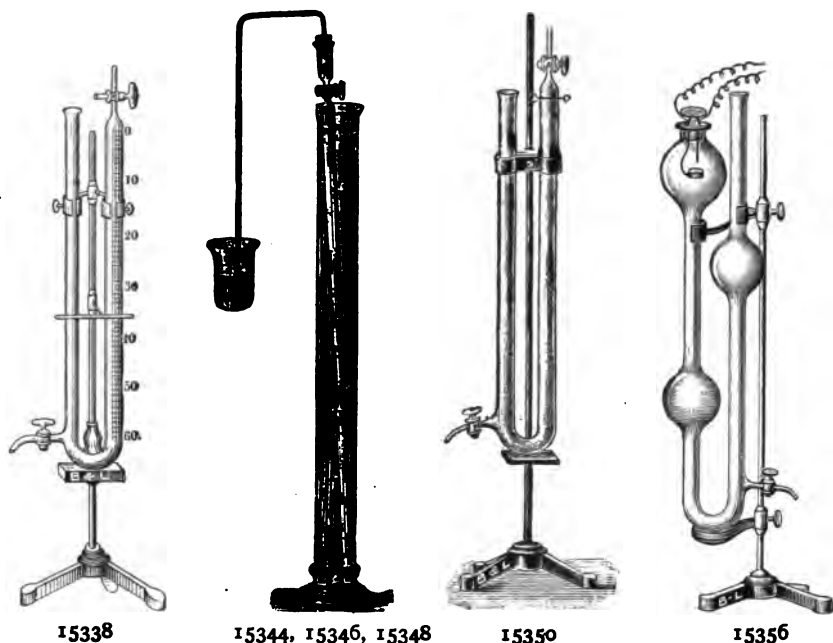
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|--|------|--------|
| 15302. Glass tube only for No. 15300. | Each | \$3.25 |
| 15306. Apparatus to prove the invariable composition of hydrochloric acid. Complete. | Each | \$5.00 |
| 15308. Tube alone, for No. 15306. | Each | \$3.50 |
| 15310. Apparatus to demonstrate that in the combination of hydrogen and chlorine into hydrochloric acid there is no condensation. Complete, without mercury. | Each | \$2.00 |
| 15312. Apparatus for the decomposition of water by electrolysis, and the collection of the gases in separate graduated tubes. With sliding tubes. | Each | \$1.50 |



15324

15330

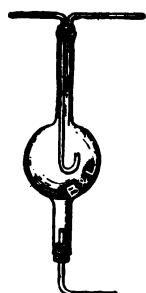
- | | |
|---|---------------------|
| 15314. Apparatus No. 15312 on foot. | Each \$2.00 |
| 15316. Apparatus for the decomposition of water by electrolysis, and the collection of the gases in separate graduated tubes. With glass stoppers. (See illustration, page 279.) | Each \$2.00 |
| 15318. Apparatus No. 15316 on foot. | Each \$2.50 |
| 15320. Apparatus for demonstrating that water is composed of one volume of oxygen and two volumes of hydrogen. Complete, with platinum electrodes and support. | Each \$8.50 |
| 15322. Glass parts only, for No. 15320. | Each \$5.50 |
| 15324. Apparatus same as No. 15320, but with tube with graduated arms. Complete, with platinum electrodes and support. | Each \$10.50 |
| 15326. Glass parts only, for No. 15324. | Each \$7.50 |
| 15330. Apparatus to demonstrate that hydrogen and oxygen are combined in the same proportion as they are liberated in the electrolysis of water. Complete, with supports. | Each \$20.00 |
| 15332. Tubes with two glass stop cocks; without support. | Each \$4.00 |
| 15334. Tube with lower stop cock; without support. | Each \$3.00 |
| 15338. Apparatus (Lecture Eudiometer) for the decomposition and recombination of water. Complete, with platinum electrodes and support. (See illustration, page 281.) | Each \$10.00 |
| 15340. Glass parts only, for No. 15338. | Each \$6.00 |



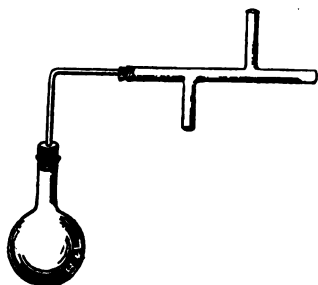
- 15344.** Apparatus to demonstrate that ammonia is composed of one volume of nitrogen and three volumes of hydrogen. Complete, as illustrated. **Each \$7.50**
- 15346.** Tube with glass stop cock, rubber stopper, and delivery tube. **Each \$3.50**
- 15348.** Cylinder with porcelain base. **Each \$4.00**
- 15350.** Apparatus for demonstrating the combination of three volumes of hydrogen with one volume of nitrogen into two volumes of ammonia. Complete, with support. **Each \$6.00**
- 15352.** Glass parts only, for No. 15350. **Each \$4.00**
- 15356.** Apparatus to demonstrate that oxygen contains the same volume as the carbonic acid and the sulphurous acid produced from it. Complete. **Each \$9.00**
- 15358.** Tube only, for No. 15356. **Each \$6.00**
- 15360.** Apparatus for illustrating the phenomena of combustion. Complete, with support. (See illustration, page 282.)
- 15362.** Tube only, with platinum burner and two glass stop cocks. **Each \$5.00**
- 15364.** Apparatus to demonstrate the increase of weight in combustion. Complete, without mercury. (See illustration, page 282.) **Each \$2.50**



15364



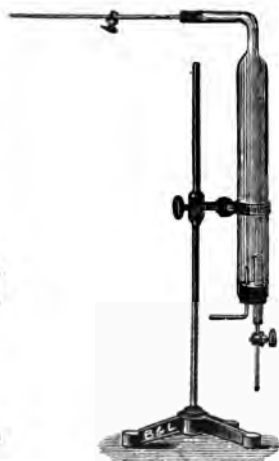
15366



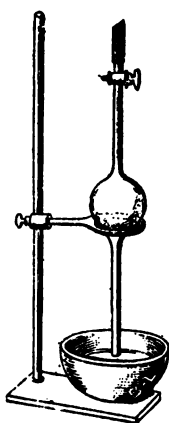
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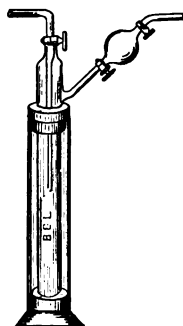
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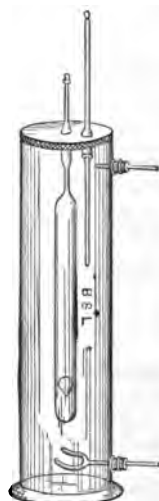
15360, 15362



15370



15376



15374

15366. Apparatus for illustrating the combustion of one gas in another.

Each \$1.60

15368. Apparatus to demonstrate that steam is lighter than air.

Each \$1.35

15370. Apparatus to demonstrate the relations between water in liquid and in gaseous form. Complete, with support.

Each \$3.50

15372. Glass parts only, for No. 15370.

Each \$3.00

15374. Apparatus for illustrating the maximum density of water.

Each \$10.00



15382, 15384

15376. Apparatus for experiments with liquid sulphurous acid. Each \$5.50

15378. Apparatus for demonstrating the manufacture of sulphuric acid. Complete, with support. Each \$8.50

15380. Glass parts only, for No. 15378. Each \$5.50

Lenses, Demonstration. These lenses show the forms of the various elementary lenses and demonstrate their optical principles. The edges are ground smooth, and polished.

15382. **Lenses, Demonstration.** Set of six lenses, viz.: double convex, double concave, plano convex, plano concave, meniscus convex, and meniscus concave; in box.

Diameter of lenses, mm.	37	50	75
Per set	1.25	2.50	4.50

15384. **Lenses, Demonstration.** Set of ten lenses, viz.: double convex, double concave, plano convex, plano concave, meniscus convex, meniscus concave, cylindrical convex, cylindrical concave, spherocylindrical, and prismatic.

Diameter of lenses, mm.	37	50	75
Per set	2.00	3.50	7.50

Lenses, Double Convex or concave.

Ground Edges				Perfectly Centered			
Catalog. Number	Diam. mm.	Focus mm.	Each	Catalog. Number	Diam. mm.	Focus mm.	Each
15386	1.5	3	\$0.75	15412	1.5	3	\$1.00
15388	3	6	.75	15414	3	6	1.00
15390	5	10	.75	15416	5	10	1.00
15392	6	13	.90	15418	6	13	1.00
15394	10	19	.90	15420	10	19	1.00
15396	13	25	.90	15422	13	25	1.00
15398	16	32	.90	15424	16	32	1.25
15400	19	38	.90	15426	19	38	1.25
15402	25	51	.90	15428	25	51	1.25
15404	38	76	.50	15430	38	76	.85
15406	50	102	.60	15432	50	102	.95
15408	62	127	.75	15434	62	127	1.25
15410	75	152	1.25	15436	75	152	1.75

Lenses, Double Convex or Concave—Large Diameter.

	mm.	cms.	Each		mm.	cms.	Each
15438	100	30-182	2.00	15448	100	30-183	2.50
15440	125	46-183	3.00	15450	125	46-183	3.75
15442	150	61-183	4.00	15452	150	61-183	5.00
15444	175	76-183	6.00	15454	175	76-183	7.50
15446	200	91-183	8.00	15456	200	91-183	10.00

Lenses, Meniscus Convex or Concave.

	mm.	mm.	Each		mm	mm.	Each
15458	25	50	1.50	15468	25	50	2.00
15460	38	75	1.75	15470	38	75	2.25
15462	50	100	2.00	15472	50	100	2.50
15464	62	125	2.50	15474	62	125	3.00
15466	75	150	3.00	15476	75	150	3.75

Lenses, Meniscus Convex or Concave—Large Diameter.

	mm.	cms.	Each		mm.	cms.	Each
15478	100	30-183	4.00	15488	100	30-183	5.00
15480	125	46-183	6.00	15490	125	46-183	7.50
15482	150	61-183	8.00	15492	150	61-183	10.00
15484	175	76-183	10.00	15494	175	76-183	12.00
15486	200	91-183	12.00	15496	200	91-183	15.00

Lenses, Plano Convex or Concave.

	mm.	mm.	Each		mm	mm.	Each
15498	1.5	3	.65	15524	1.5	3	.90
15500	3	6	.65	15526	3	6	.90
15502	5	10	.65	15528	5	10	.90
15504	6	13	.75	15530	6	13	1.00
15506	10	19	.75	15532	10	19	1.00
15508	13	25	.75	15534	13	25	1.00
15510	16	32	.75	15536	16	32	1.10
15512	19	38	.75	15538	19	38	1.10
15514	25	38	.75	15540	25	51	1.10
15516	38	76	.85	15542	38	76	1.25
15518	50	100	1.00	15544	50	100	1.40
15520	62	125	1.25	15546	62	125	1.75
15522	75	150	1.50	15548	75	150	2.00

Lenses, Prisms. See PRISMS.

Lenses, Magnifying. See MAGNIFIERS, MICROSCOPES, READERS.

Lenses, Photographic. See CATALOGUE OF PHOTOGRAPHIC LENSES.

15550. **Lens Paper, Japanese.** For cleaning lenses; does not easily collect dust nor become greasy or harsh. It is very soft and free from impurities. Recommended for use with our lenses. In packages of 100 sheets.

Size of sheet, mm.	185x275	275x275
Per package	.25	.45

15552. **Letters.** Of steel; for stamping steel, iron, bullion, etc. Full alphabet.

Face, mm.	1½	3	4½	6	8	10	12
Per set	2.25	2.30	2.75	3.00	4.00	5.50	7.00



15554



15552



15560



15558



15564

Letters, Steel Figures. See FIGURES.

15554. Levels. Of iron, japanned.

Length, mm.	110	140	170
Each	.35	.40	.50

15556. Levels. Of brass.

Length, mm.	100	130	150
Each	.50	.60	.75

15558. Level. Round; best quality; in brass case. For balances, bacteriological work, etc. Diameter, 30 mm. **Each \$2.00**

15559. Levels. Round; best quality; in brass case; with screw for attachment to balance case.

Diameter of face, mm.	20	30
Each	1.50	2.00

15560. Level. Round; in brass case, nickel plated. Diameter, 15 mm.

Each \$0.50

Lime Cylinders. See CHALK STICKS.

Litmus Paper. See TEST PAPER.

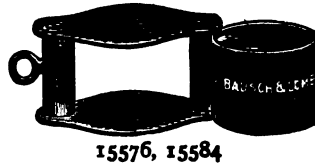
Litmus Pencils. See PENCILS.

15562. Magnets, Bar. Of steel; best quality.

Length, mm.	100	125	150	200	250
Each	.25	.30	.35	.40	.50

15564. Magnets, Horseshoe. Best English steel; very powerful; with armature.

Length, mm.	50	75	100	125	150	200	250	300
Each	.08	.10	.15	.25	.50	1.00	1.75	2.50



15576, 15584



15566-15574

Magnifiers, Achromatic Triplet. These lenses are thoroughly achromatic, being composed of a very thick crown lens cemented between two flint lenses. The field is large and flat and the image sharply defined and free from all color. The mountings are German silver, nickel plated. These lenses are the very best throughout, optically and mechanically.

Catalogue Number.	Diameter in. mm.		Magnification Diameters.	Focus in. mm.		Each.
15566	$\frac{1}{4}$	6	40	$\frac{1}{4}$	6	\$4.00
15568	$\frac{3}{8}$	10	20	$\frac{1}{2}$	12	4.00
15570	$\frac{1}{2}$	12	14	$\frac{3}{4}$	18	4.00
15572	$\frac{5}{8}$	15	10	1	25	4.00
15574	$\frac{3}{4}$	18	7	$1\frac{1}{2}$	38	4.00

Magnifiers, Aplanatic Triplet, Hastings'. After formulae by Prof. Chas. S. Hastings. These are the best Magnifiers obtainable anywhere and offer advantages found in no other hand magnifiers. They are very small and compact and are therefore especially adaptable where it is desired to carry a magnifier in the pocket constantly. The field embraces a wide angle and the image is sharp and clear to the very edge. The working distance is very large, and the definition is such as to show structure not visible with other magnifiers of equal magnification. The mountings are German silver and of exceptionally fine workmanship.

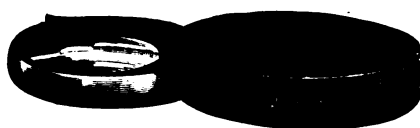
Catalogue Number.	Diameter in. mm.		Magnification Diameters.	Focus in. mm.		Real Field mm.	Each.
15576	$\frac{1}{4}$	6	20	$\frac{1}{2}$	12	8	\$7.00
15578	$\frac{3}{8}$	10	14	$\frac{3}{4}$	18	14	7.00
15580	$\frac{1}{2}$	12	10	1	25	20	7.00
15582	$\frac{3}{4}$	18	7	$1\frac{1}{2}$	38	30	7.00
15584	1	25	5	2	50	40	7.00



15586



15602



15604

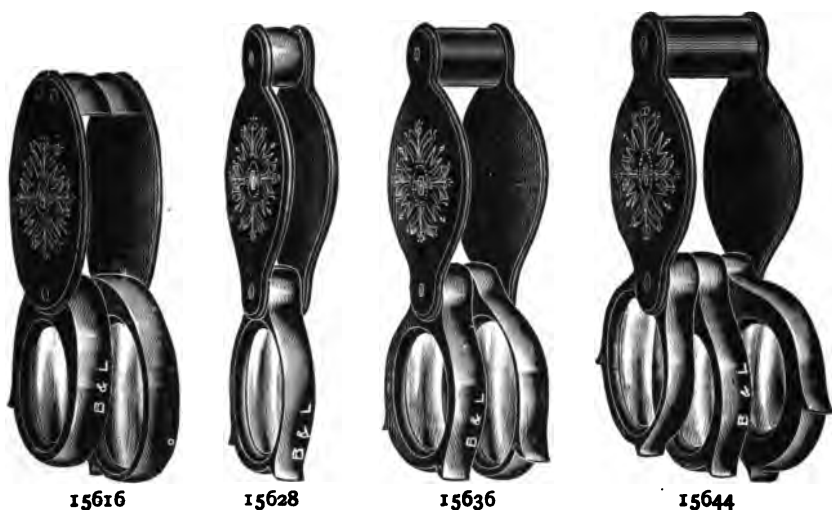
Magnifiers, Coddington. The Coddington magnifier is a cylinder of glass cut from a solid sphere and having a groove equally distant from the surfaces, which acts as a diaphragm and reduces aberration, giving clear and perfect definition. The lenses listed here are real Coddingtons. The mountings are neatly finished and nickeled.

Catalogue Number.	Diameter in. mm.	Focus in. mm.	Each.
15586	$\frac{1}{2}$ 12	$\frac{1}{2}$ 12	\$1.50
15588	$\frac{3}{8}$ 15	$\frac{3}{4}$ 18	1.50
15590	$\frac{3}{4}$ 18	1 25	1.75
15592	1 25	$1\frac{1}{2}$ 38	2.00

Magnifiers, Coddington. To meet the demand for Coddington lenses at a lower price than it is possible to make the best grade for, we list these lenses. They are not so high quality optically as the preceding but are far superior to the foreign made magnifiers offered as Coddingtons. The mountings are well made and the lenses are of clear glass carefully ground and polished.

Catalogue Number.	Diameter in. mm.	Focus in. mm.	Each.
15594	$\frac{3}{4}$ 18	$\frac{3}{4}$ 18	\$1.10
15596	1 25	1 25	1.25
15598	$1\frac{1}{8}$ 28	$1\frac{1}{2}$ 28	1.50
15600	$1\frac{3}{8}$ 34	2 50	1.75

15602. Magnifier, Doublet. This magnifier is composed of two separated plano-convex lenses. The field is large and flat and the definition excellent. The mounting is thoroughly well made, neatly finished and nickel plated. The Doublet magnifier is recommended whenever a good low priced lens is required. Diameter of lens, 15 mm. ($\frac{5}{8}$ in.); focus, 18 mm. ($\frac{3}{4}$ in.). **Each \$1.25**



Magnifiers, Pocket. In vulcanite mounting. Our pocket magnifiers have always been considered the standard. They have superseded those of foreign manufacture mounted in horn, etc., as the vulcanite which we employ for mountings is much preferred on account of its greater permanence, lightness, and neat appearance. The lenses used are accurately ground and give good results.

Catalog. Number.	Diameter in. mm.		Price Each.	Catalog. Number.	Diameter in. mm.		Each.
Oval Shape. One Lens.							
15604	¾	18	\$.20	15610	1½	38	\$.50
15606	I	25	.30	15612	1¾	42	.60
15608	1¼	30	.40	15614	2	50	.75
Oval Shape. Two Lenses.							
15616	⅝, ¾	15, 18	\$.40	15622	1¼, 1½	30, 38	\$.80
15618	⅞, I	21, 25	.50	15624	1½, 1¾	38, 42	1.00
15620	1⅛, 1¼	28, 30	.65	15626	1¾, 2	42, 50	1.25
Bellows Shape. One Lens.							
15628	¾,	18	.20	15632	I	25,	.30
15630	⅞,	21	.25	15634*	¾	18,	.25
Bellows Shape. Two Lenses.							
15636	⅝, ¾	15, 18	.35	15640	⅞, I	21, 25	.50
15638	¾, ⅞	18, 21	.40	15642*	⅝, ¾	15, 18	.40
Bellows Shape. Three Lenses.							
15644	½, ⅝, ¾	12, 15, 28	.50	15648	¾, ⅞, I	18, 21, 25	.80
15646	⅝, ¾, ⅞	15, 18, 21	.60	15650*	½, ⅝, ¾	12, 15, 18	.60

* Nos. 15634, 15642, and 15650 have diaphragm which increases the definition of the lenses.



Magnifiers, Pocket (Linen Testers). These magnifiers, often called linen testers, fold up to occupy the smallest possible space. The lens gives about ten diameters magnification and is focused on the opening in the base so that the magnifier is simply set over the object. The mountings are nickel plated.

Catalogue Number	Size		Opening	Shape	Each
	in.	mm.			
15652.	$\frac{1}{2} \times \frac{1}{2}$	12 x 12		Square	.25
15654.	$\frac{3}{4} \times \frac{1}{2}$	6 x 12		Rectangular	.25

Magnifiers. See also MICROSCOPES, READING GLASSES.

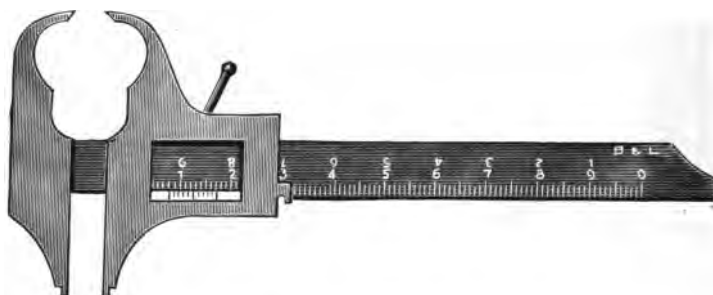
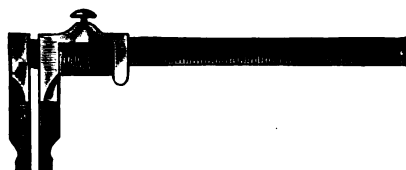
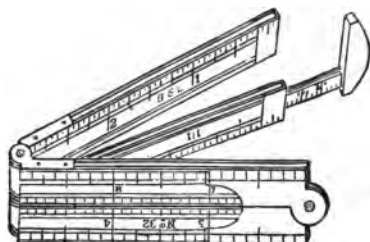
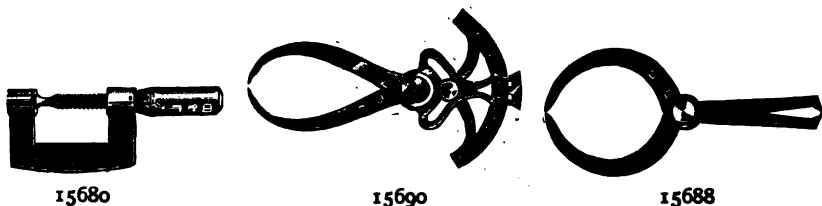
15656. Mallets.	Hard wood.	Each	\$0.25
15658. Mallets.	Raw hide.	Each	\$1.25
15660. Manganese Comparison Color Tube.	Designed by J. M. Camp.	Each	\$6.50

Manometers. See GAUGES.

Marsh's Apparatus for Detection of Arsenic. See ARSENIC APPARATUS.

15662. Mattresses.	Of hard Bohemian glass.	Each	\$0.08
15664. Mattresses.	Of German glass; for blowpipe work.	Each	\$0.05

15666. Measures, Agateware.	Agate nickel steel; for liquids.						
Capacity, pints	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	
Each	.30	.40	.50	.70	.90	1.20	
15668. Measures, Copper.	For liquids; with handle.						
Capacity, pints	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	
Each	.55	.70	.90	1.10	1.85	2.25	



15682

Measures, Glass. See GRADUATES.

15670. **Measures, Tin.** For liquids. (See illustration, page 289.)

Capacity, pints	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8
Each	.15	.20	.25	.30	.50	.65

15672. **Measure.** Of wood; graduated on one side in millimeters to 30 centimeters, on the other in 8ths inch to 12 inches. **Each \$0.20**

15674. **Measure, Boxwood.** With square, brass-bound edges and ends. Graduated to 16ths inch on both edges of one side, and to 8ths inch on the other side. Length, 24 inches. **Each \$3.00**

15676. **Measure, Boxwood.** With brass edge; graduated to 8ths inch. Length, 12 inches. **Each \$0.45**

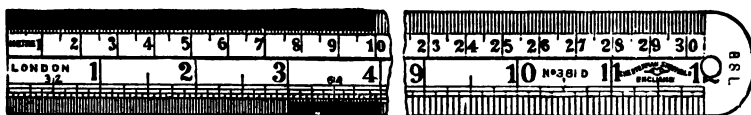
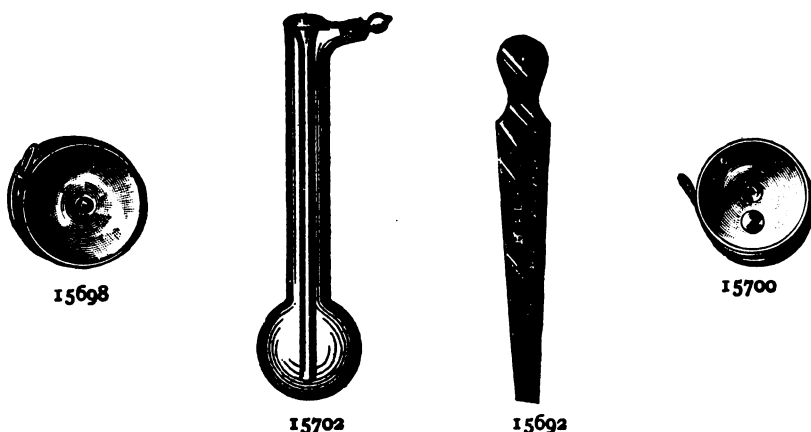
15678. **Measures, Folding Caliper.** Boxwood rule graduated on one side in millimeters and on the other in 16ths inch.

Length of scale, mm.	150	300
Each	.25	.40

15680. **Measures, Micrometer Screw Caliper.** Of steel, nickel plated. One complete revolution is equivalent to one millimeter thickness. Graduated to 0.01 mm.

Scale reading from 0 to mm.	10	15	20
Each	1.75	2.00	2.25

15682. **Measures, Vernier Caliper.** Of steel; graduated in millimeters to 10 centimeters; with vernier reading to 0.1 mm. **Each \$1.50**



15694, 15696

- 15684. Measure, Vernier Caliper.** Of steel, nickel plated; graduated in millimeters, with vernier reading to 0.1 mm., and in inches divided to 16ths inch. Length, 20 centimeters, with square ends. **Each \$2.00**
- 15686. Measure, Vernier Caliper.** With steel points. **Each \$2.50**
- 15688. Measure, Caliper.** Of steel; for inside and outside measurement; plain. (See illustration, page 290.) **Each \$0.50**
- 15690. Measure, Caliper.** Graduated in millimeters to 80 mm., and in 16ths inch to 3 inches. (See illustration, page 290.) **Each \$1.25**
- 15692. Measuring Cones.** Of steel, nickel plated; for measuring holes. Scale divided to 0.1 mm.

Scale, mm.	1 to 15	15 to 30	30 to 45
Each	.75	1.00	1.50

- 15694. Measure, Steel Rule.** Of steel, hardened and tempered. English scale; graduated to 4ths, 8ths, 16ths, 32ds, and 64ths inch. Length, 6 inches. **Each \$0.40**
- 15696. Measure, Steel Rule.** Of steel, hardened and tempered. English and metric scales; graduated on one side to 0.5 mm. and 8ths, 16ths, 32ds, and 64ths inch, and on the other to 10ths, 12ths, 20ths, 24ths, 48ths, 50ths, 96ths, and 100ths inch. Length, 6 inches (150 mm.) **Each \$0.80**
- 15698. Measures, Tape.** Of linen, in heavy nickel plated case with spring. Graduated on one side in 8ths inch and on the other in millimeters and centimeters.

Length, meters	1	2
Each	.25	.40

- 15700. Measures, Tape.** Of steel, in heavy nickel plated case with spring.

Graduated on one side in 16ths inch and on the other in millimeters and centimeters.

Length, meters	1	2	5
Each	.75	1.00	3.25
Capacity, cc.	150	250	500
Each	2.00	2.25	2.50

15702. Melting Point Apparatus, Roth's. (See illustration, page 291.)

Mercury Troughs. See TROUGHS.

Microscope, Chamot Chemical. This microscope is intended for micro-chemical examinations of all kinds, and is constructed after specifications by Professor E. M. Chamot. The production of a suitable instrument at the very reasonable price at which we are able to offer it adds much to the possibilities of micro-chemistry in our universities and colleges, as well as for the individual worker. This microscope is also specially adapted for the examination of food stuffs suspected of containing adulterations.

The stand is of brass throughout, base large, pillar solid, screw substage. Fine adjustment is our standard triangular bar form, coarse adjustment by standard diagonal rack and pinion.

The polarizer may be swung out from the optical axis if desired, and quickly raised and lowered. The mounting has stop indicating zero point. The analyzer is in revolving mounting, with circle graduated in degrees, and fits over the eye-piece. It can be lifted off for quickly changing eyepieces.

All eyepieces are fitted with cross hairs and have a pin at the side, which fits into a recess at the top of draw tube, for lining the cross hairs. The analyzer mounting is fixed to the draw tube by a stud and recess. This permits changing of eyepieces and replacing of analyzer, so that the prisms are crossed without further adjustment. The draw tube has vertical adjustment, but rotation is prevented by means of a stud on the draw tube traveling in a vertical groove in the body tube. The stage revolves, and has centering screws by which the object may be centered to the axis of rotation. The surface is of vulcanite, not affected by ordinary fluids. The circumference is graduated to degrees. Only low-power objectives are listed with this stand, as the higher powers come so near the fluids as to be liable to erosion. To guard against any deterioration of the lenses, even in the low powers, a number of thin glass circles are supplied which are to be cemented to the front of the objective with pure glycerine and changed as often as they become clouded.

The desired magnification is obtained by use of higher power eyepieces. Each M Microscope is furnished in polished wood carrying case, with handle and lock.

Catalogue Number	Objectives	Cross Hair Eye-Pieces	Nose-Piece	Each
M1	$\frac{1}{2}$, $\frac{1}{4}$	1 in., $\frac{1}{2}$ in.	Double	\$72.00
M2	$\frac{1}{2}$, $\frac{1}{4}$	1 in., $\frac{1}{2}$ in.		\$77.00
M3	1, $\frac{1}{2}$, $\frac{1}{4}$	2 in., $1\frac{1}{2}$ in.		\$85.00
M4	1, $\frac{1}{2}$, $\frac{1}{4}$	1 in., $\frac{1}{2}$ in.	Triple	\$92.00
		2 in., $1\frac{1}{2}$ in.		
		1 in., $\frac{1}{2}$ in.		

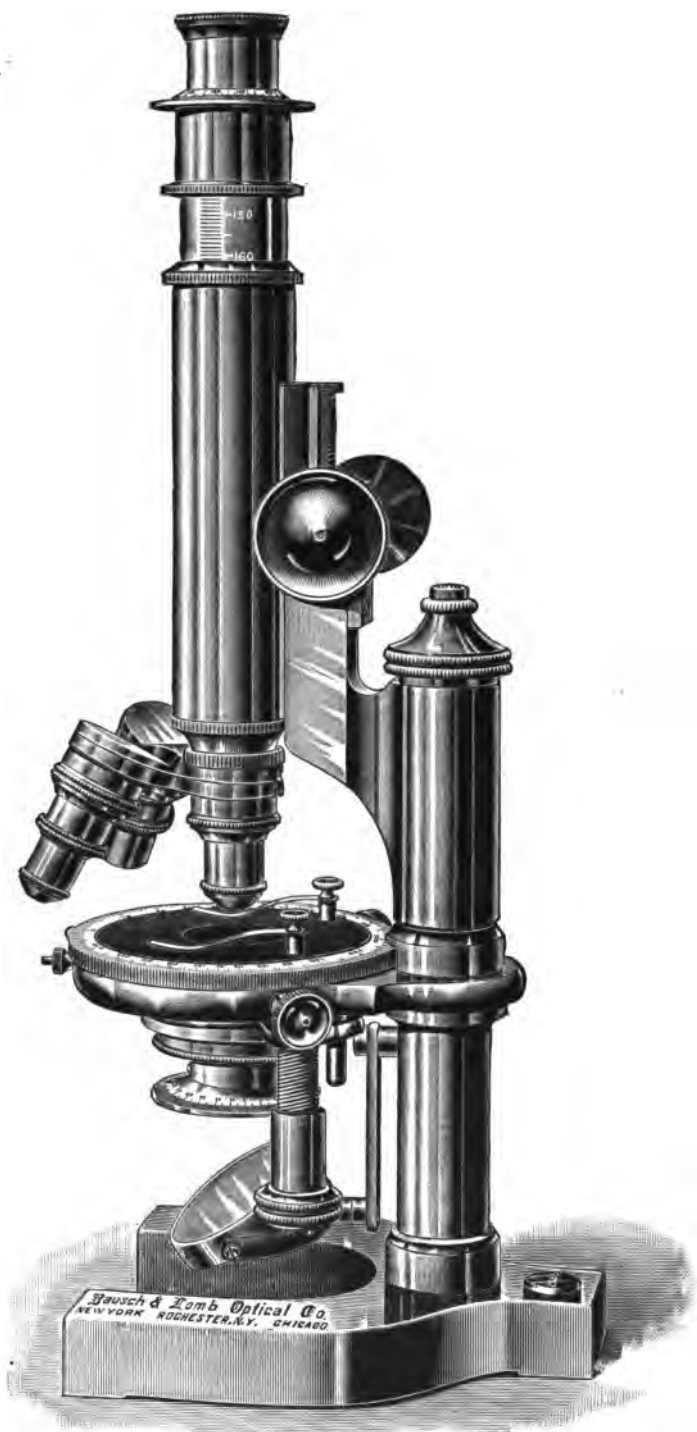


Figure one-half actual size.

Chamot Chemical Microscope—M

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.

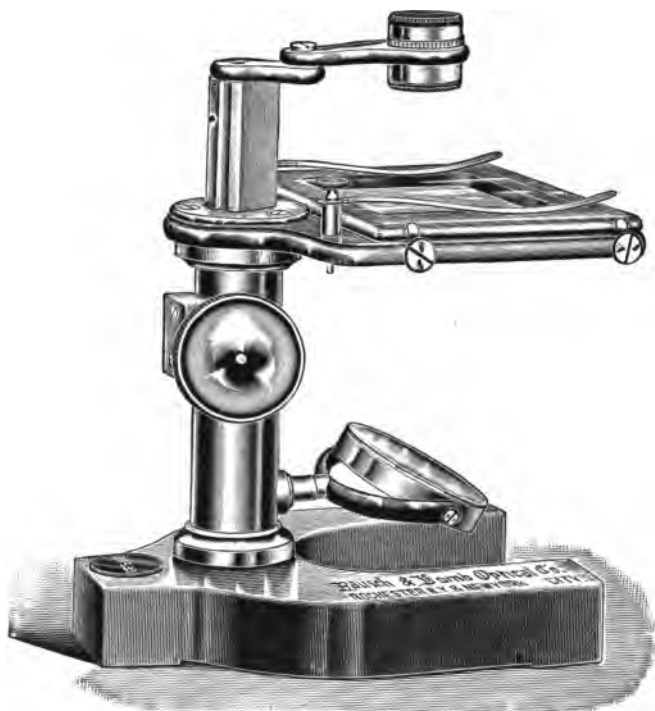


Figure one-half actual size.
Dissecting Microscope, W

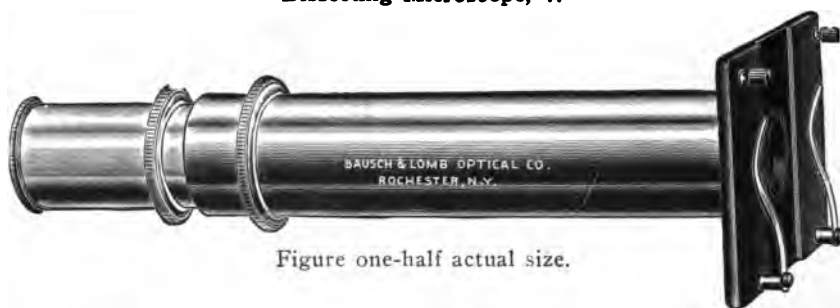


Figure one-half actual size.

Demonstration Microscope, O

Microscope, Demonstration, O. This microscope is intended for the demonstration of microscopic objects in the lecture room. It is so arranged that the object can be placed in position, the lens focused upon it, and the whole passed from hand to hand and examined without disturbing the focus of the objective.

The tube carrying the eye-piece and objective, slides in the body tube and has spiral groove with pin by which the objective may be accurately focused. This improvement avoids the easy derangement of the adjustment and prevents the objective from coming in forcible contact with the slide.

Catalogue Number	Eye-Piece	Objective	Each
O	1 in.		\$6.00
Or	1 in.	2/3	12.00

Bausch & Lomb Optical Co., Rochester, N. Y., U. S. A.,



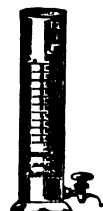
15708



15705



15706



15710

Microscope, Dissecting, W. This microscope is constructed to secure great steadiness under manipulation, convenience in working, and durability. The base is heavily japanned, all other parts being nicked to prevent corrosion. The mirror frame holds a concave mirror and a white plane glass reflector. The stage is extra large, and the entire surface of the thick glass stage plate is available for work, as the spring clips are attached to the metal supporting frame. The stage plate is held in place by spring clips so as to be easily removable for cleaning, etc. Size of stage plate, 75 x 100 mm.

The lens arm is jointed so that the lens may be moved over every part of the stage. The focusing arrangement is by accurate diagonal rack and pinion of very long range, giving great working distance between lens and stage. The Aplanatic triplet lenses should always be selected when cost is not prohibitive. Lenses of the foci listed are most generally used. Those of any of the regular foci can be substituted if preferred.

Each W Microscope is furnished in neat wooden carrying case.

Catalogue Number	Lenses	Each
	Doublet	
W ₁	1 in.	\$ 9.75
W ₂	1½ in., ¾ in.	10.50
W ₃	1 in.	10.50
W ₄	1½ in., ¾ in.	12.00
W ₅	1 in.	12.50
W ₆	1 in., ½ in.	16.00

Microscopes, Dissecting, W. Folding Wooden Hand Rests.

Per Pair \$2.00

Microscopes, Simple. See MAGNIFIERS, READING GLASSES.

Microscopes, Other. See CATALOGUE OF MICROSCOPES AND ACCESSORIES.

Microtomes. See CATALOGUE OF MICROTOMES.

15703. Microscopical Coverglasses. Our regular circular and square cover glasses are packed in half ounce packages and are furnished in 13, 15, 18, 22 or 25 mm. diameter. When ordering always give shape, thickness, size and quantity. If no designation is given, 18 mm. No. 2 circles will be sent.



"No."	Thickness	Per Ounce	
		Circular	Square
0	Selected extra thin	\$2.50	\$2.00
1	0.13-0.17 mm.	1.25	1.05
2	0.17-0.25 mm.	1.00	.85
3	0.25-0.50 mm.	.80	.70

Oblong coverglasses, any size and thickness, cut to order. Prices on application.

- 15704. Microscopical Object Slides.** White glass; edges ground round.
- | | | |
|--|-----------|--------|
| A Medium thickness; size, 25 x 75 mm. (No. 1290) | Per Gross | \$1.00 |
| B Extra thin; size, 25 x 75 mm. (No. 1292) | Per Gross | \$1.10 |
| C Medium thickness; size, 38 x 75 mm. (No. 1302) | Per Gross | \$2.00 |
| D Medium thickness; size, 50 x 75 mm. (No. 1304) | Per Gross | \$3.00 |
| E Medium thickness; size, 25 x 75 mm.; concave center (No. 1306) | Per Dozen | \$0.60 |

MILK TESTING APPARATUS

- 15705. Creamometers.** To show the percentage of cream formed on milk. Consists of four graduated glass tubes supported on wooden stand. Complete. (See illustration, page 295.) **Each \$4.25**
- 15706. Creamometers.** Single tubes. (See illustration, page 295.) **Each \$0.30**
- 15708. Creamometer, Chevalier's.** For measuring the percentage of cream in milk. Without stop cock. (See page 295.) **Each \$0.70**
- 15710. Creamometer, Chevalier's.** With glass stop cock. **Each \$1.50**
- Fat Determination Apparatus, Soxhlet's.** See EXTRACTION APPARATUS.
- 15711. Holt Milk Test Set.** For testing human milk. With directions. **Each \$2.00**
- 15712. Lactobutyrometer, Caldwell's.** For determining the amount of fat in milk. Consists of a graduated tube with rubber stopper, two volume pipettes, and one cylindrical jar. Complete. **Each \$2.50**
- 15714. Lactobutyrometer, Marchand's.** For fat determination. Complete with pipette. **Each \$1.25**
- 15716. Lactometer, Board of Health.** **Each \$0.50**
- 15718. Lactometer, Board of Health.** With thermometer. **Each \$1.50**



15750



15734



15746



15748



15736

15720. Lactometer, Quevenne's. Small size, 165 mm. long. Each \$0.50
 15722. Lactometer, Quevenne's. Large size, 210 mm. long. Each \$0.50
 15724. Lactometer, Quevenne's. With thermometer. Each \$1.00
 15726. Lactometer, New Design. For direct reading, showing proportion of water in both whole milk and skim milk. Small size, 165 mm. long. Each \$0.50
 15728. Lactometer, New Design. Large size, 210 mm. long. Each \$0.50
 15730. Lactometer, New Design. Large size, with thermometer. Each \$1.00
 15732. Lactoscope, Feser's. For determining the amount of fat in milk by its degree of translucency. Complete in polished wooden case with graduated pipette and directions for use. Each \$3.35
 15734. Milk Testers, Babcock's Ideal. Complete with necessary accessories and acids, and directions for use. Each \$3.75
 15736. Milk Testers, "Agos." Latest improved, cast iron body and cover; spur and spiral gearing with machine cut teeth; removable malleable iron bottle head; seamless brass swinging pockets with reinforce ring. Bottles can swing perfectly horizontal when in motion; ball bearings make it turn easier and run more smoothly than others. This is a perfectly accurate, efficient, simple, and durable hand tester. Supplied with set of regular Babcock milk bottles, pipette, acid measure, acid for 50 to 100 tests and full directions for manipulating.

Number of bottles,	4	6	8	10	12
Each, Net	8.00	9.00	10.00	12.00	14.00



15762



15764

15738. Babcock milk test bottles. (See page 296.) Each \$0.25
15740. Babcock cream test bottles. (See page 296.) Each \$0.30
15742. Greiner's automatic pipette. (See page 296.) Each \$1.25
15744. Paper for absorbing milk. Absolutely fat free; in strips 65 x 560 mm.
Per box of 50 strips. Each \$1.60
15746. **Milk Tester, Pioscope, Heeren's.** For determining the richness of milk by comparison with standard colors. Consists of a rubber plate having a cell in the center for the sample, and a glass plate with colored segments. (See page 297.) Each \$0.75
15748. **Mills.** For grinding drugs, grains, seeds, etc. May be regulated to grind to various degrees of fineness. (See page 297.)
- | | | | |
|----------------------|-------------|-------------|-------------|
| Height, mm. | 300 | 370 | 500 |
| Diam. of wheels, mm. | 200 | 200 | 260 |
| Each, Net | 3.75 | 4.75 | 8.00 |
15750. **Mills, Assayer's.** For grinding ores, etc. Diameter of wheels, 500 mm. Arranged to attach to table. (See page 297.) Each \$5.00
15752. **Mills, Assayer's.** On iron stand. Each \$7.00
15754. **Mills, Assayer's.** Extra plates for Nos. 15750 and 15752. Per set \$2.00

Minim Glasses. See GRADUATES.

Mirrors. Ground and polished; mounted in metal back with handle; 100 mm. diameter.

Catalogue Number	Curvature	Each
15756.	Plane	\$3.50
15758.	Sphero-Concave	3.50
15760.	Sphero-Convex	3.50

Mirrors, Special. Quotations furnished on receipt of specifications.

Mixing Jars. See CYLINDERS.

15762. **Moist Chambers.** Of heavy, clear white glass. The cover fits loosely and has knob.

Height (inside), mm.	70	80
Diameter of cover, mm.	200	240
Each	1.25	2.00

15764. **Moist Chambers.** Without knob.

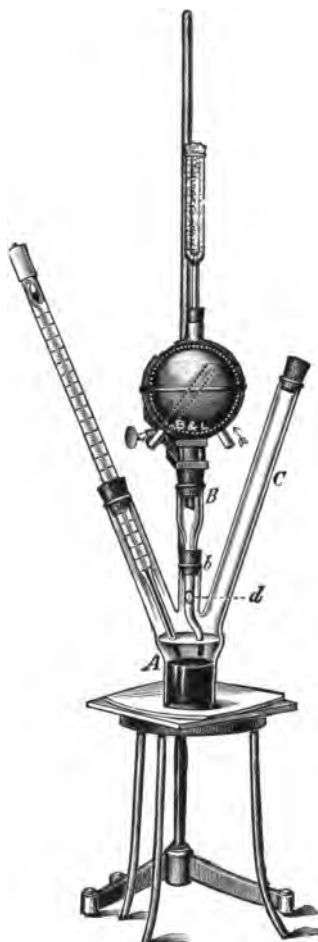
Height (inside), mm.	70	80
Diameter of cover, mm.	200	240
Each	1.00	1.75

15766. **Moist Chamber, Geissler's.** Each \$0.75

15768. **Moist Chamber, Recklinghausen's or Kleb's.** With parallel surfaces. Each \$1.25



15770



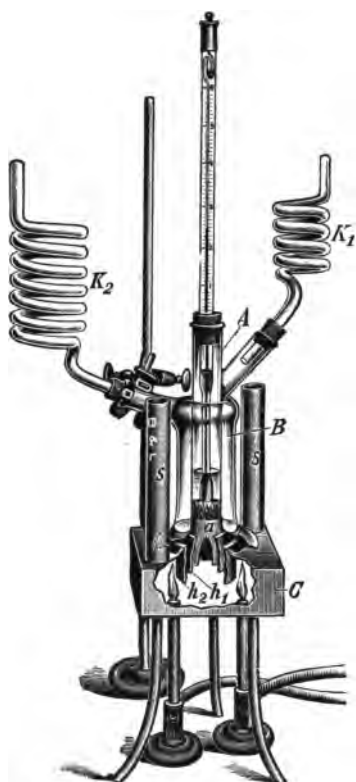
15772

- 15770. Molecular Weight Determination Apparatus. Apparatus for Beckmann's Freezing Method, New Form.** Consists of battery jar with cover and stirrer, four air jackets, four freezing tubes, three filling pipettes, one thermometer, -20° to $+40^{\circ}\text{C}$. in degrees, one standard thermometer of Jena Normal glass divided in $1/100^{\circ}$, etc.

Each \$31.50

- 15772. Molecular Weight Determination Apparatus. Apparatus for Beckmann's Boiling Point Method, Old Form.** Consists of a boiling flask with three tubulatures and sealed-in platinum wire, asbestos jacket, paper, granite stones, glass beads, two filling pipettes, Pastille press, one metal condenser, glass condenser, gas regulating stop cock, and one standard thermometer of Jena Normal glass, graduated in $1/100^{\circ}\text{C}$.

Each \$42.00



15774

- 15774. Molecular Weight Determination Apparatus. Apparatus for Beckmann's Boiling Point Method, Latest Form.** Consists of asbestos heating box and support, steam jacket of glass, steam jacket of porcelain, boiling cylinder with sealed-in platinum wire, two spiral condensers, two Liebig's condensers, granite stones, glass beads, two filling pipettes, clay plate, asbestos paper, and one standard thermometer of Jena Normal glass, graduated in $1/100^{\circ}\text{C}$.

Each \$26.75

- 15776. Mortars, Agate.** Superior quality; with pestle.

Diameter, mm.	30	35	40	45	50	55	60
Each	1.10	1.20	1.30	1.35	1.60	1.90	2.25
Diameter, mm.	65	70	75	80	90	100	120
Each	2.65	3.00	3.75	4.50	6.40	8.25	13.00

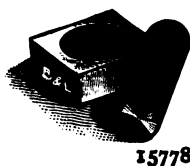
Any of the above agate mortars will be furnished with wooden base at extra cost.

- 15778. Mortar, Diamond, Leed's.** Of hardest steel.

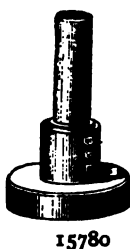
Each \$2.00

- 15780. Mortars, Diamond, Plattner's.** Of hardest steel.

Diameter (inside), mm.	15	20
Each	3.60	5.70



15778



15780



15794



15784



15782



15786



15776



15790, 15792

15782. Mortars, Glass. Of clear white glass; very heavy and strong.

Capacity, cc.	30	60	125	250	500	1000
Diameter, mm.	60	70	100	110	130	150
Each	.15	.18	.25	.30	.50	.75

15784. Mortars, Iron. With pestle of iron.

Capacity, cc.	250	500	1000	2000	4000
Diameter, mm.	100	125	150	175	225
Each	.40	.80	1.20	1.40	2.70

15785. Mortars, Iron, Chilled. Equal to steel; especially made for powdering hard ores, etc., with extra large pestles.

Capacity, cc.	2000	4000	8000	12000
Each	2.00	3.00	4.80	6.50

15786. Mortars, Porcelain. Deep form; with lip and pestle. Glazed outside, rough inside.

Diameter, mm.	65	80	110	130	150	175	200	260
Each	.18	.25	.45	.60	.90	1.10	1.35	2.40

15788. Mortars, Porcelain. Glazed inside and outside.

Diameter, mm.	65	80	110	130	150	175	200	260
Each	.35	.40	.70	.80	1.10	1.40	1.60	2.75

15790. Mortars, Porcelain. Shallow form; with lip and pestle. Glazed outside, rough inside.

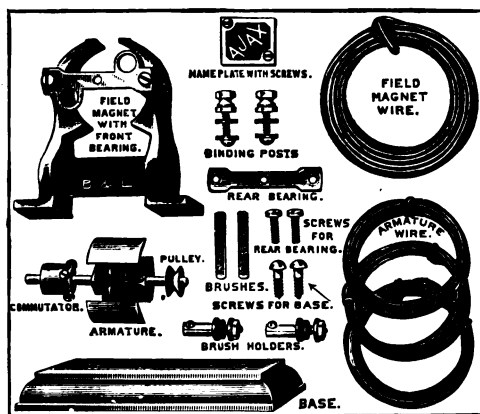
Diameter, mm.	65	80	110	130	150	175	200	260
Each	.18	.25	.45	.60	.90	1.10	1.35	2.40



15797



15795



15796

- 15792. Mortars, Porcelain.** Shallow form. Glazed inside and outside.
- | Diameter, mm. | 65 | 80 | 110 | 130 | 150 | 175 | 200 | 260 |
|---------------|-----|-----|-----|-----|------|------|------|------|
| Each | .35 | .40 | .70 | .80 | 1.10 | 1.40 | 1.60 | 2.75 |
- 15794. Mortars, Wedgewood.** Guaranteed acid proof; pestle with wooden handle. (See illustration, page 301.)
- | Diameter, mm. | 75 | 90 | 100 | 125 | 150 | 175 |
|---------------|------|------|------|------|------|------|
| Each | .32 | .45 | .50 | .65 | .80 | 1.15 |
| Diameter, mm. | 200 | 240 | 260 | 300 | 350 | |
| Each | 1.40 | 2.25 | 2.75 | 3.30 | 4.40 | |
- 15795. Motor, Electric, Porter.** Motor of simple form for demonstration purposes. Well made and finished; especially desirable for school work. **Each \$1.50**
- 15796. Motor, Electric, Porter.** Same as No. 15795 but dissected for student use. Directions accompany each set of parts, enabling anyone to produce the complete motor. **Each \$1.25**



15798

15797. Motor, Electric, Porter No. 7. Drum armature type; adapted for a variety of uses which will be appreciated by anyone desiring this type of machine.

A, Wound for use with battery. **Each \$7.00**

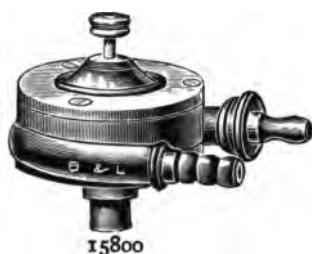
B, Wound for use with 110-volt circuit in series with 16-cp. lamp.

Each \$8.00

15798. Motors, Electric, Rochester. The motors listed below are the well-known Rochester Motors. They are of the iron-clad protected type with ventilation. The bearings are of phosphor bronze, self-aligning and provided with ring oilers; another peculiar feature of the bearings is that there are no screws or babbitt metal used in connection with the adjusting of the boxes, doing away with any chances for the screws to loosen or the babbitt to soften. The commutator bars are of the purest lake copper, insulated with prepared mica. The windings are extra heavily insulated with tape, mica and fuller board, and all materials are the best known for the purpose in hand.

Prices include automatic release starter, pulley, brushes and sub-base for 3-horse power motor and larger. The $\frac{1}{2}$, 1, and 2-horse power machines can be wound for 500 volts at an increase in price of \$5.00 each. Speed regulating devices furnished at slightly increased prices.

	$\frac{1}{4}$	$\frac{1}{2}$	1
Horse Power			
Revol. per min. (approx.)	1600	1400	1300
Volts	50 to 250	50 to 250	50 to 250
Net Weight, kilos.	35	55	70
Gross Weight, kilos	55	85	100
Case, cm.	45x30x30	45x38x38	58x38x40
Each, Net	45.00	60.00	75.00
Horse Power	2	3	4
Revol. per min. (approx.)	1200	1000	1400
Volts	110 to 250	110 to 500	230 and 500 only
Net Weight, kilos	125	220	220
Gross Weight, kilos	160	275	275
Case, cm.	60x60x60	75x70x60	75x70x60
Each, Net	100.00	135.00	145.00



15799. Motor, Rabe's. For water, vapor, or expanded air. This motor can be attached to an ordinary apparatus stand and used for either stirring or shaking. Complete. **Each \$6.75**

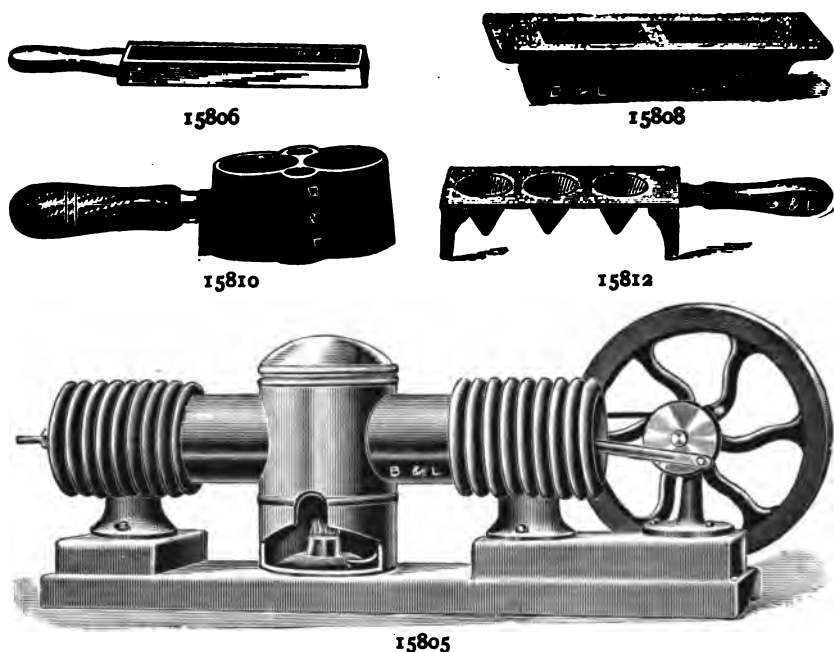
15800. Motor, Rabe's. Turbine only. **Each \$6.00**

15801. Motor, Rabe's. Turbine holder only. **Each \$0.75**

15802. Motor, Water. A high grade and high speed motor for use with ordinary water service. Furnished with fittings for hose connections and grooved cone-pulley giving two speeds. Very desirable for light work. In ordering state water pressure. Horse power $1/10$ to $1/45$. Jet 2 to 3 mm. **Each \$20.00**

15803. Motor, Water. This is a very desirable motor for laboratory work where good water pressure is to be had. It is the only water motor built that can be taken apart and put together by an inexperienced person. It is built on scientific and mechanical lines and gives maximum power with minimum pressure. Will never freeze; noiseless in operation; speed steady and invariable.

Diameter, mm.	200	300	400	500
Horse power according to water pressure	$1/8$ to $1/4$	$1/4$ to $1/2$	$1/2$ to 3	1 to 4
Size of jet, mm.	3 to 5	5 to 6	5 to 7	5 to 8
Each	24.00	32.00	40.00	80.00



15804. Motors, Hot Air. Of the famous Heinrici pattern. These small motors will be found useful in any place as they are independent of conditions such as are indispensable with steam engines, gas motors, etc., and are also devoid of all danger under any and all circumstances. These motors operate upon the simple principle of expansion of heated air and the contraction of cooled air. The three smaller sizes are carried in stock, the larger sizes imported to order. (See illustration, page 304.)

Horse power	1/40	1/20	1/15	1/10	1/8	1/5
Weight, kilos	17	25	43	75	175	250
Diam. of fly-wheel, cm.	18	25	30	38	50	57
Revolution per minute without load	500-600	500-600	500	400	340	320

Price with gas burner

F. O. B. Rochester	45.00	75.00	112.50	150.00	225.00	300.00
---------------------------	--------------	--------------	---------------	---------------	---------------	---------------

15805. Motors, Hot Air. These motors are operated by the expansive force of heated air. Gas or alcohol may be used for fuel, and once started the motors will run continuously with little or no attention until the flame is extinguished. They are absolutely safe, inexpensive, and adaptable to any purpose where only light power is required. The best material and workmanship enter into their construction, and they are attractively finished in enamel, nickel, and bronze.

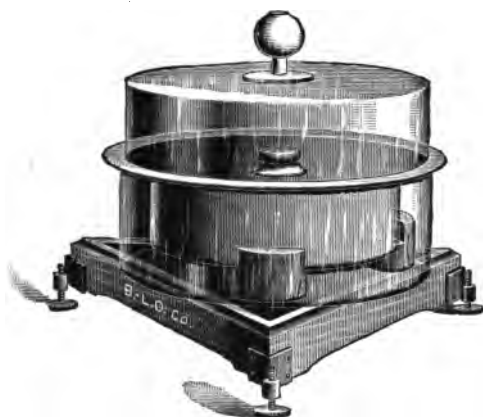
Style	A	B	C
Total length, mm.	450	450	560
Diam. of fly-wheel, mm.	150	150	200
Weight, boxed, kilos	5½	7	14
Each, Net	5.00	7.50	12.75



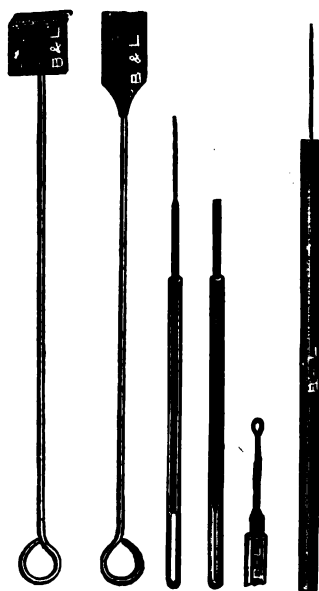
15816, 15818



15814



15832



15826

15824

15830

15828

15806. **Mould, Ingot.** Of cast iron. Size, 175 x 38 x 25 mm. Each \$1.00
15808. **Mould, Ingot or Bullion.** Of cast iron; with slide to cast any length of bar desired. Size, 200 x 38 x 38 mm. (See page 305.) Each \$1.50
15810. **Mould, Pouring.** Of cast iron; with two conical cavities, 55 mm. diam., drilled smooth; wooden handle. (See page 305.) Each \$1.00
15812. **Mould, Pouring.** Of cast iron; with three conical cavities, 50 mm. diam.; wooden handle. (See page 305.) Each \$0.60
15814. **Mould, Pouring.** Of cast iron; with hemispherical cavities, 40 mm. diam.

Number of cavities	6	9	12
Each	.60	.70	.80

15816. **Muffles, Battersea.** Regular form.

Length, mm.	175	190	200	215	225	250
Width, mm.	87	110	120	125	135	150
Height, mm.	60	70	75	80	90	100
Each, Net	.35	.45	.55	.65	.70	.80

- | | | | | | | |
|-----------------------------------|----------------|-------------|-------------|-------------|-------------|-------------|
| 15818. Muffles, Battersea. | Colorado form. | | | | | |
| Length, mm. | 350 | 375 | 375 | 400 | 400 | 450 |
| Width, mm. | 200 | 225 | 275 | 275 | 250 | 275 |
| Height, mm. | 120 | 142 | 165 | 150 | 175 | 175 |
| Each, Net | 1.00 | 1.30 | 1.95 | 2.00 | 2.00 | 2.25 |
- 15820. Muffles, Battersea.** Hoskins' form; with opening in top.
- | | | |
|------------------|------------|------------|
| Length, mm. | 200 | 250 |
| Width, mm. | 120 | 150 |
| Height, mm. | 75 | 100 |
| Each, Net | .55 | .80 |
- 15824. Muffle Scraper.** For cleaning muffles. Length 90 cm. Straight blade. **Each \$0.40**
- 15826. Muffle Scraper.** Bent blade. **Each \$0.40**
- 15828. Needles, Inoculating.** Heavy platinum needle set in glass handle.
- | | | |
|-------------|------------|------------|
| Length, mm. | 40 | 80 |
| Each | .50 | .75 |
- 15830. Needles, Inoculating.** Heavy platinum needle mounted in aluminum handle. A glass tube closed at one end forms a holder into which the needle may be reversed when the instrument is not in use. Form B is useful for transferring cultures of bacteria.
- | | | |
|-------------|------------|--------------|
| | A | B |
| Style | Straight | Twisted Loop |
| Each | .75 | 1.00 |
- Nessler Tubes.** See COLORIMETRIC DETERMINATION APPARATUS
- Nickel Goods.** See CRUCIBLES, DISHES, FILTER CONES, SPATULAS, TONGS, ETC.
- Nitrogen Bulbs.** See GAS APPARATUS.
- Nitrometers.** See GAS APPARATUS.
- 15832. Nivellating Apparatus.** For leveling culture media during solidification. The triangular base has leveling screws and there is a double glass receiver for ice, a ground glass plate for supporting plates, a bell glass cover, and a circular level. **Each \$8.50**
- 15834. Note Book Covers.** These covers open on the side and have a flexible margin near the back, which permits full width of paper held by them to be used. Either side of the leaves may be written on with equal facility. Very handy for the laboratory. **Each \$0.45**
- 15836. Note Book Paper.** For use in above covers; unruled, and of a good quality for writing with ink. It is furnished punched to fit the covers. Per package of one pound with fasteners. **Each \$0.40**
Postage per package. **\$0.20**
- Numbers, Steel.** See FIGURES.
- Object Slides.** See MICROSCOPICAL SLIDES.

OIL TESTING APPARATUS

- 15838. Oil Tester, Abel's.** The form adopted by the German government as standard; with 2 Standard Ivory Thermometers. Complete in case. (See illustration, page 308.) **Each \$80.00**
- 15840. Fire Tester, Elliot's.** As adopted by the New York State Board of Health. To ascertain at what temperature oil will flash or explode. With standard thermometer. (See illustration, page 308.) **Each \$13.00**



15838



15840

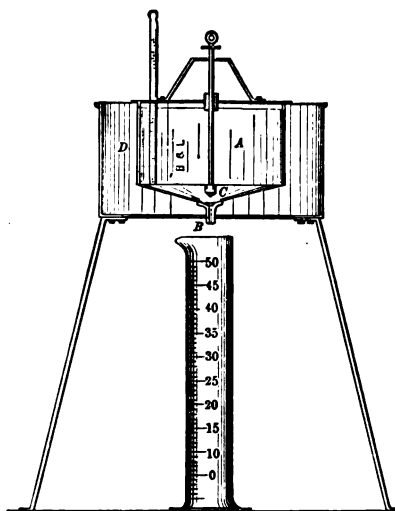


15842

- 15842. Fire Tester, Foster's.** To ascertain at what temperature oil will flash or explode. With standard thermometer. **Each \$15.00**
- 15844. Open Fire Tester.** To ascertain at what temperature oil will flash or explode. With standard thermometer. **Each \$7.50**
- 15848. Open Fire Tester, Cleveland.** For high grade or lubricating oils. The most substantial tester on the market, being made of heavy brass castings. Complete with standard solid glass thermometer, 80° to about 640°, spirit lamp, and Bunsen burner for gas. **Each \$16.00**
- 15850. Pyrometer, Tagliabue's Coal Oil.** Small size; to ascertain at what temperature oil will flash or explode. With standard thermometer ranging from about 50° to 170°, or 80° to 250° F. **Each \$21.60**
- 15852. Pyrometer, Tagliabue's Coal Oil.** Large size; same as No. 15850. **Each \$27.00**
- 15854. Pyrometer, Tagliabue's Coal Oil.** Large size; same as No. 15852; with Bunsen burner, and thermometer ranging from about 80° to 400°, or 200° to 600° F. (See illustration, page 309.) **Each \$32.40**



15854



15868

- 15856. Melting Point Tester, Standard.** For fats and wax. This instrument is a great improvement over old, tedious and unreliable instruments and methods. The results obtained are not affected by currents of air or the temperature of the room in which the tests are made, and the tests are made in one-twentieth of the time required for other methods. Only a teaspoonful of the sample is necessary for a test and one test after another can be made in rapid succession, it being only necessary to empty the funnel and add the new sample. Complete with two standard thermometers. **Each \$30.00**
- 15858. Viscosimeter, Boverton Redwood's.** Imported to order. The recognized standard instrument for the viscosity of oil. Complete, with thermometers. **Duty paid, Each, Net \$45.00**
- 15860. Viscosimeter, Boverton Redwood's.** Complete; fitted in portable mahogany case. **Duty paid, Each, Net \$51.00**
- 15862. Extra thermometers for high temperature, 340° and 300° F.** **Per pair, duty paid, Net \$5.00**
- 15864. Viscosity Pipette, Dudley's.** As adopted by the Pennsylvania Railroad. Delivers 100 cc. of distilled water in 35 seconds at a temperature of 100° F. **Each \$2.00**
- 15866. Viscosimeter, Improved Form.** Specially devised to meet all demands as a measure of viscosity, without the many objections that occur against other forms. It is intended to show the viscosity of any oil by noticing the number of seconds required for 50 cc. to run through the open faucet. Each instrument is thoroughly tested and standardized. **Each \$60.00**
- 15868. Viscosimeter, Scott's.** For determining the viscosity of oils, etc., by noting the number of seconds required for 50 cc. to run through. This is a reliable instrument and compares very favorably with



15904, 15906

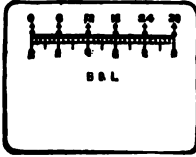


15886

- those of much higher price. Complete, with standard thermometer and 50 cc. graduate. **Each \$10.00**
- 15870. Oil Testing Apparatus. Stop Watch.** For use with above instruments. **Each \$10.00**
- Pails, Agateware.** See BUCKETS.
- Palladium Tubes.** See GAS APPARATUS.
- Pans, Scale.** See BALANCE PANS.
- Paper, Adam's, for Absorbing Milk.** See MILK TESTING APPARATUS.
- Paper, Bibulous.** See FILTER PAPER.
- Paper, Filter.** See FILTER PAPER.
- 15872. Paper, Glazed. White.** **Per quire \$0.30**
- 15874. Paper, Glazed. Black.** **Per quire \$0.30**
- 15876. Paper, Glazed. Blue.** **Per quire \$0.30**
- 15878. Paper, Glazed. Yellow.** **Per quire \$0.30**
- Paper, Lens.** See LENS PAPER.
- Paper, Litmus.** See TEST PAPER.
- 15880. Paper, Parchment.** For dialysers, etc. **Per five hundred grams \$0.35**
- 15882. Paper, Tracing.** Very thin, transparent, and tough. Size 50 x 68 cm. **Per quire \$1.25**
- Paraffin Baths.** See WATER BATHS.
- Parting Flasks.** See FLASKS, ASSAY.
- Pasteur Flasks.** See FLASKS, CULTURE.
- 15884. Pencils, Drawing. A. W. Faber's best quality, 3H.** **Each \$0.12**
- 15886. Pencils, Drawing. A. W. Faber's best quality 6H.** **Each \$0.12**
- 15888. Pencils, Litmus, Tyree's.** Red and blue litmus pencils, in metal case. **Each \$0.25**
- 15890. Pencils, Wax.** For writing on glass, china, metal, etc.; white. **Each \$0.13**
- 15892. Pencils, Wax.** For writing on glass, china, metal, etc.; blue. **Each \$0.13**
- 15894. Pencils, Wax.** For writing on glass, china, metal, etc.; red. **Each \$0.13**
- 15896. Pencils, Wax.** For writing on glass, china, metal, etc.; yellow. **Each \$0.13**
- 15898. Pens, Crow-quill.** One dozen in a box. **Per box \$0.50**
- 15900. Pens, Lithographic Crow-quill, Gillott's.** **Per dozen, with holder \$0.60**
- 15902. Pen Holder.** For Crow-quill pens. **Each \$0.07**



15908, 15910



15920



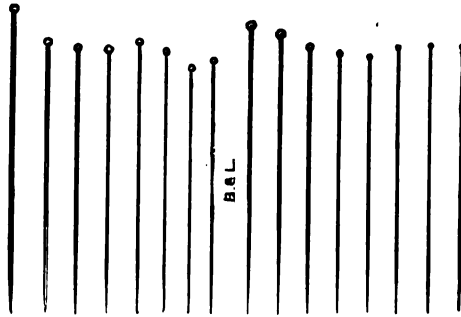
15916, 15918



15914



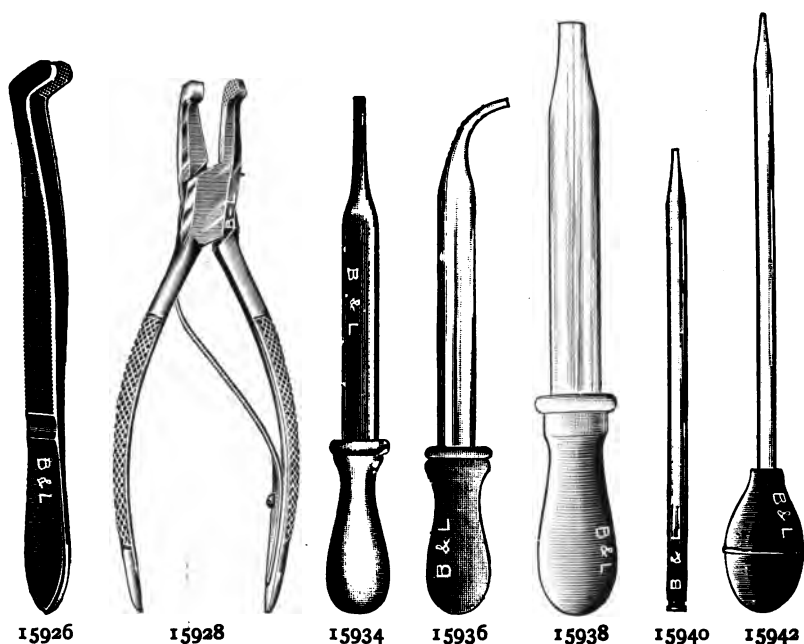
15912



15922

15924

15904.	Pens, Fountain.	Genuine Waterman Ideal.	Small barrel.				
	Style of pen	Fine	Medium	Coarse	Stub		
	Each, Net	2.50	2.50	2.50	2.50		
15906.	Pens, Fountain.	Genuine Waterman Ideal.	Large barrel.				
	Style of pen	Fine	Medium	Coarse	Stub		
	Each, Net	2.50	2.50	2.50	2.50		
15908.	Percolator, Agateware.	Agate nickel steel.	Capacity, 500 cc.; diameter, 100 mm.				
					Each	\$0.90	
15910.	Percolator, Agateware.	Flint enameled; acid proof.			Each	\$1.00	
	Percolators, Copper or Tin.	Any size made to order.					
15912.	Percolators.	Heavy flint glass; conical.					
	Capacity, liters	¼	½	1	2	4	8
	Each	.25	.30	.35	.50	.75	1.35
15914.	Percolators.	Heavy flint glass; Oldberg's.					
	Capacity, liters	¼	½	1	2	4	8
	Each	.25	.30	.40	.55	.85	1.35
15916.	Percolator Jars.	Graduated in ounces.					
	Capacity, gal.	¼	½	1	2		
	Each	1.10	1.60	2.40	3.60		
15918.	Percolator Jars.	Graduated in cubic centimeters.					
	Capacity, liters	1	2	4	8		
	Each	1.10	1.65	2.50	3.75		



15920. Pill Tiles, Porcelain. Graduated; square. (See page 311.)

Size, mm.	150	200	250	300
Each	.50	.75	1.20	2.00

Pinch Cocks. See CLAMPS.

15922. Pins, Insect, Klaeger's. White; with round heads; perfect points; very stiff. Sizes, 00 to 6. Per hundred \$0.15; per 1,000 \$1.20

15924. Pins, Insect, Klaeger's. Black, enameled; with round, yellow heads; perfect points; very stiff. (See illustration, page 311.)

Sizes	00 and 0	1 to 6
Per hundred of a size	.20	.18
Per thousand of a size	1.75	1.50

15926. Pinning Forceps. Made of steel, nickel plated. The blades are bent at the proper angle for convenient use in crowded collections. Length, 135 mm. Each \$1.50

15928. Pinning Forceps. With lever handles; nickel plated; extra strong and accurately made. Length, 150 mm. Each \$2.50

15930. Pipe, Block Tin.

Diameter, mm.	5	6	8	9	12
Per 450 grams (1 lb.)	.80	.80	.80	.80	.80

15932. Pipe, Lead.

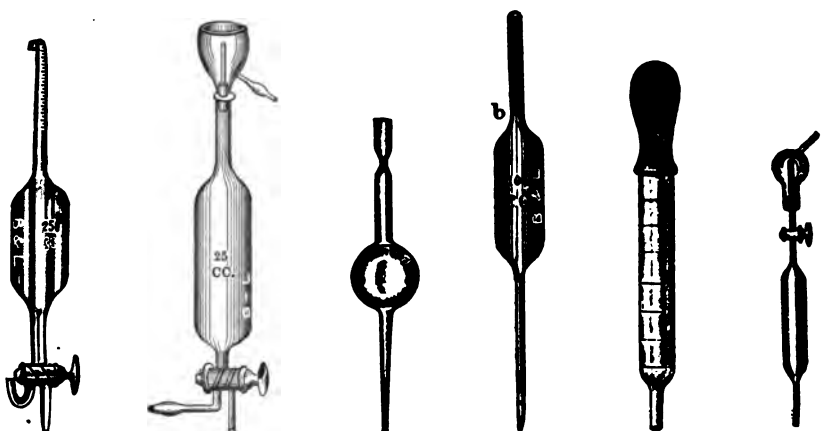
Diameter, mm.	5	6	8	9	12
Per 450 grams (1 lb.)	.15	.15	.15	.15	.15

15933. Pipes. Common clay.

Per ten \$0.20

15934. Pipettes. With rubber bulb; capacity, 2 cc.; straight.

Per ten \$0.30



- 15944** **15946** **15950** **15956** **15958** **15960**
- 15936. Pipettes.** Capacity, 2 cc.; curved. Per ten \$0.30
- 15938. Pipette.** With large mouth and extra large rubber bulb; straight. Per ten \$0.75
- 15940. Pipettes.** Without bulb; straight.
- | | | |
|-------------|-----|-----|
| Length, mm. | 200 | 300 |
| Per ten | .45 | .60 |
- 15942. Pipettes.** With 20-cc. rubber bulb; straight.
- | | | |
|-------------|------|------|
| Length, mm. | 200 | 300 |
| Per ten | 1.50 | 1.75 |
- 15944. Pipettes, Acid.** Designed by Prof. C. G. Hopkins for the determination of the acidity of soils. By this method it is possible to determine quantitatively the amount of lime which a soil requires to neutralize the soil acidity. Each \$6.00
- 15946. Pipettes, Automatic.** With three-way stop cock.
- | | | | | |
|---------------|------|------|------|------|
| Capacity, cc. | 10 | 25 | 50 | 100 |
| Each | 3.60 | 3.75 | 4.00 | 4.50 |
- 15948. Pipettes, Bleier's.** With four bulbs holding 10 cc. each, and tube holding 10 cc., graduated in 1/5 cc. (See page 314.) Each \$2.50
- 15950. Pipette, Bulb.** Capacity about 45 cc. Each \$0.20

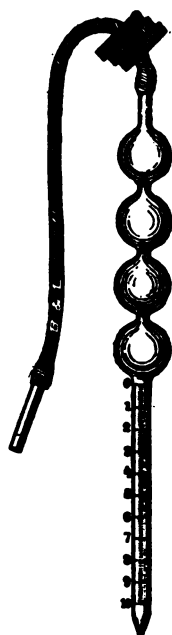
PIPETTES, GRADUATED

In the manufacture of pipettes even more careful details are observed than for instruments of coarser graduations. Being under our own supervision, we can trace the work through the various stages of production and, as each instrument is carefully tested, give the assurance of unexcelled quality.

The following pipettes are adjusted by measurement with water at 15° C. and are well adapted for general laboratory work.

15952. Pipettes, Mohr's.

Capacity, cc.	1	1	1	2	2	2	5
Graduated, cc.	1-10	1-50	1-100	1-10	1-20	1-50	1-10
Each	.25	.30	.32	.30	.32	.40	.40
Capacity, cc.	5	10	10	25	50	75	100
Graduated, cc.	1-20	1-10	1-20	1-10	1-10	1-5	1-5
Each	.45	.45	.55	.65	1.00	1.45	1.75



15948



15966



15962



15964



15952



15954



15968

15954. Pipettes, Mohr's. With glass stop cock.

Capacity, cc.	10	25	50	100
Graduated, cc.	1-10	1-10	1-10	1-5
Each	1.00	1.50	1.85	2.40

Pipette, Viscosity. See No. 15864.

15956. Pipettes, Volumetric.

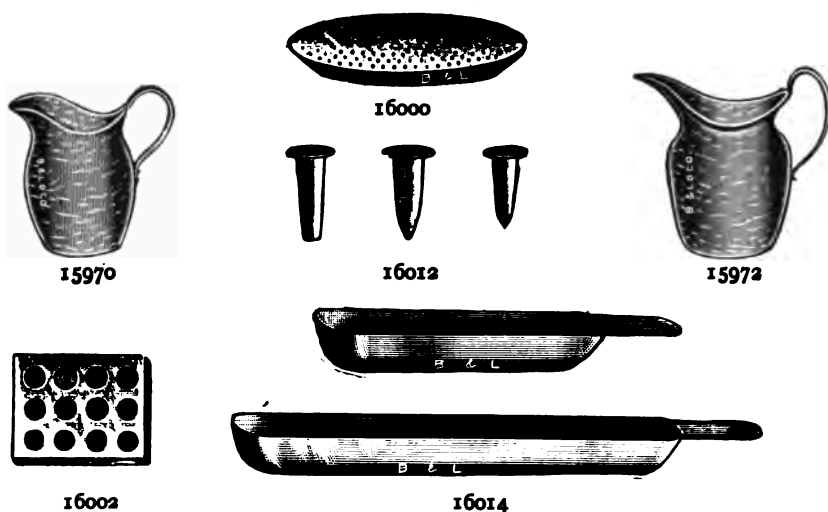
Capacity, cc.	1	2	3	4	5	10	15	20	25	50	75	100	200
Each	.08	.09	.10	.11	.12	.14	.16	.20	.25	.32	.40	.45	.60

15958. Pipettes, Volumetric. Graduated in minims; with rubber bulb.

Capacity, minims	30	60
Each	.30	.40

15960. Pipettes, Volumetric Safety. With stop cock, and reservoir to receive the overflow.

Capacity, cc.	2	5	10	25	50	100
Each	1.25	1.35	1.45	1.55	1.65	2.00



Pipettes, Graduated, for Laboratory Work of Precision.

These pipettes are graduated by weight on delicate balance and are standardized to meet the requirements of the German Imperial Commission. A certificate of accuracy is supplied with each instrument.

15962. Pipettes, Mohr's. Standardized. (See illustration, page 314.)

Capacity, cc.	1	1	2	2	5
Graduated, cc.	1/100	1/10	1/50	1/10	1/10
Each	.65	.50	.80	.60	.90
Capacity, cc.	10	25	50	100	
Graduated, cc.	1/10	1/10	1/10	1/5	
Each	.90	1.30	2.00	3.50	

15964. Pipettes, Volumetric. Standardized. (See illustration, page 314.)

Capacity, cc.	1	2	5	10	20	25	50	100	150	200
Each	.16	.18	.25	.30	.40	.50	.65	.90	1.00	1.20

We can supply these pipettes (on import orders only, and at higher cost), tested by the German Imperial Commission, whose indorsement of accuracy is stamped upon each instrument.

15966. Pipette Box. Of sheet iron; for sterilizing pipettes. Size, 100 x 100 x 300 mm. (See illustration, page 314.) **Each \$1.50**

15968. Pipette Rest. Of porcelain; for pipettes, stirrers, etc. Size, 75 x 65 mm. (See illustration, page 314.)

Pipettes for Gas Analysis. See GAS PIPETTES.

Pipette Stands. See SUPPORTS.

Pitchers, Acid. See ACID PITCHERS.

15970. Pitchers, Agateware. Agate nickel steel; seamless.

Capacity (approx.), liters	1½	2	3	4
Each	.90	1.10	1.35	1.60

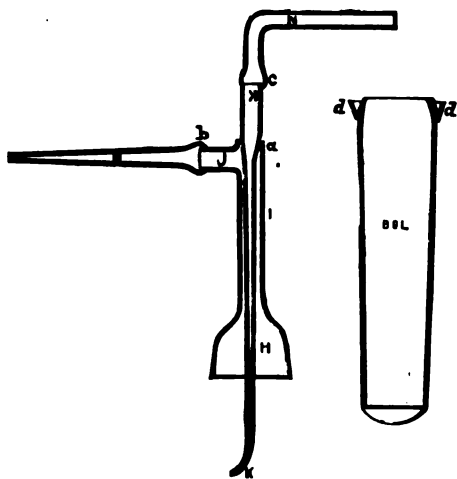
15972. Pitchers, Agateware. Flint enameled; acid proof. Capacity (approx.), 2 liters. **Each \$1.70**

Plate and Rubber. See CRUSHER.

	Plates, Glass. Circular.	Plain or ground on one side; edges not ground.									
	Diameter, mm.	50	75	100	125	150	175	200	225	250	300
15974.	Plain. Each	.04	.05	.07	.08	.12	.16	.20	.25	.30	.40
15976.	Ground on one side. Each	.05	.06	.08	.10	.15	.20	.25	.30	.35	.50
15982.	Plates, Glass. Circular;	with ground edges, and piece cut out of edge to admit stirrer.									
	Diameter, mm.	50	75	100	125	150					
	Each	.25	.30	.35	.40	.45					
15984.	Plates, Glass. Circular;	with ground edges, and hole in center to admit stirrer.									
	Diameter, mm.	50	75	100	125	150					
	Each	.25	.30	.35	.40	.45					
	Plates, Glass. Square.	Plain or ground on one side; edges not ground.									
	Size, mm.	75	100	125	150	175	200	225	250	300	
15986.	Plain. Each	.03	.04	.06	.08	.12	.16	.20	.25	.30	
15987.	Ground on one side. Each	.04	.05	.07	.10	.15	.20	.25	.30	.35	
	Plates, Glass. Heavy Plate.	Square; ground on one side.									
	Size, mm.	75	100	125	150	175	200	225	250	300	
15990.	Edges rough. Each	.15	.20	.25	.30	.35	.40	.50	.80	1.00	
15991.	Edges ground. Each	.20	.25	.30	.35	.45	.55	.70	1.00	1.25	
15992.	Plates, Blue Glass.	So-called Cobalt glasses; for observing the potassium flame; edges not ground.									
	Size, mm.	50 x 50	50 x 75	75 x 75	50 x 100	75 x 100	100 x 100				
	Each	.04	.05	.06	.06	.08	.10				
15994.	Plates, Blue Glass.	Edges ground.									
	Size, mm.	50 x 50	50 x 75	75 x 75	50 x 100	75 x 100	100 x 100				
	Each	.08	.10	.10	.10	.12	.15				
15996.	Plates, Ruby Glass.	Edges not ground.									
	Size, mm.	50 x 50	50 x 75	75 x 75	50 x 100	75 x 100	100 x 100				
	Each	.04	.05	.06	.06	.08	.10				
15998.	Plates, Ruby Glass.	Edges ground.									
	Size, mm.	50 x 50	50 x 75	75 x 75	50 x 100	75 x 100	100 x 100				
	Each	.08	.10	.10	.10	.12	.15				
	Plates, Hot.	See BURNERS, HOT PLATE.									
16000.	Plates, Porcelain.	Perforated; for use in funnels. (See page 315.)									
	Diameter, mm.	25	38	50	75	100	125	150	175		
	Each	.20	.20	.30	.50	.75	1.00	1.25	1.50		



16018



16020

- 16002. Plate, Porcelain.** For color reactions; with twelve cavities; may be used as a receptacle for small weights. Size, 115 x 90 mm. Each \$0.65
- 16004. Plate, Porcelain.** Suitable for the base of a support stand; with hole in center, and supported on three legs. Diameter, 285 mm. Each \$3.50
- 16006. Plates, Porous.** Circular; for drying crystals and precipitates. Diameter, 250 mm. Each \$0.15
- 16008. Plates, Porous.** Square; for drying crystals and precipitates.
- | Size, mm. | 150 | 200 | 300 | 400 |
|-----------|-----|-----|-----|------|
| Each | .35 | .55 | .75 | 1.25 |
- 16010. Plates, Streak.** Of porcelain; for mineralogists. Each \$0.25

PLATINUM WARE

The articles listed below are made of pure platinum, hammered into shape and not spun. All of our platinum ware is sold by actual weight at current price of platinum, and not by the piece or according to the approximate weights given, which are, however, sufficiently correct to estimate the cost. Quotations furnished on request.

- 16012. Platinum Blowpipe Tips.** Seamless. (See page 315.)
- 16014. Platinum Combustion Boats.** All sizes, shapes, and weights, from 3 to 10 cc. capacity and 4 to 8 grams weight. (See page 315.)
- 16016. Platinum Combustion Tubes.** Seamless.
- | Length, mm. | 300 | 300 |
|------------------------|-----|-----|
| Diameter, mm. | 18 | 20 |
| Weight (approx), grams | 130 | 160 |
- 16018. Platinum Crucibles.** Supplied with covers, unless otherwise ordered. Weight, with covers, approximately as many grams as capacity in cc.
- | Capacity, cc. | 8 | 10 | 12 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---------------|---|----|----|----|----|----|----|----|----|----|----|----|----|
|---------------|---|----|----|----|----|----|----|----|----|----|----|----|----|
- 16020. Platinum Crucible. Gooch Form.** For the determination of combined water and carbonaceous matter in iron analysis. See "Blair's Analysis," 3d edition, page 260.
- Prices quoted on request.



16022



16034



16024

16022. Platinum Crucibles. Gooch Form. Perforated; furnished with covers, unless otherwise ordered. Weights below include covers and caps.

Capacity, cc.	20	25	30
Weight (approx.), grams	22	29	34

Platinum Crucible. See COMBUSTION APPARATUS, SHIMER'S.

16024. Platinum Dishes, Evaporating. With lip.

Capacity, cc.	20	30	45	80	125	200	270	370	400
Weight (approx.), grams	8	14	22	32	48	65	90	125	150

Platinum Evaporating Dishes, of other sizes and shapes, lighter or heavier, or with wire rim, made to order.

16026. Platinum Dishes. For incinerations. (See illustration, page 319.)

Length, mm.	38	50
Capacity, cc.	15	20
Weight (approx.), grams	10	15

16028. Platinum Dishes. For iron analysis. Flat bottom; straight sides; with lip and wire rim fused into the dish. Supplied with platinum stirring rod.

Diameter, mm.	90	100	110
Depth, mm.	50	55	58
Weight (approx.), grams	80	100	125

16030. Platinum Dish. For iron, steel, and water analysis. (See page 319.)

16032. Platinum Dish. For milk analysis. (See page 319.)

16034. Platinum Dish. For sugar analysis.

16036. Platinum Dishes. For sugar analysis. With or without handle. Furnished with handle unless ordered otherwise. Diameter, 50 mm.; weight, from 10 to 15 grams. (See page 319.)

16038. Platinum Filter Cones. Seamless; perforated; angle 60°. (See page 319.)

Diameter, mm.	18	25	30	40	50
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16040. Platinum Filter Cones. Flexible; full or three-quarter circle; perforated; adjustable to any angle. (See page 319.)

Diameter, folded, mm.	18	25	30	40	50
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Cones, Other Kinds. See FILTER CONES.

Prices quoted on request.



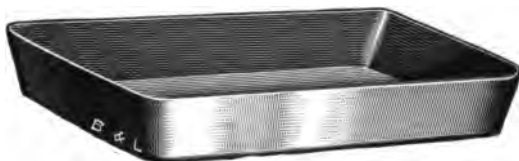
16030



16032



16036



16026



16040



16038

16042. Platinum Filtering Apparatus. For holding perforated boats in iron analysis. See "Blair's Analysis," 3d edition, page 151. Weight of boats, approximately, 15 grams; holders, approximately, 25 grams. (See page 320.)

16044. Platinum Foil. Any size or thickness. Stock thicknesses, .01, .02, .03, .04, .05, and .06 mm.

16046. Platinum Gauze.

Mesh	52	45
Wire, mm.	0.10	0.22
Weight, grams per sq. cm.	0.084	0.233

16048. Platinum Muffle, Scheibler's. For sugar and milk analysis, enameling, etc. Length, 110 mm.; width, 50 mm.; height, 38 mm.; weight (approx.), 50 grams. (See page 320.)

16050. Platinum Spatulas. Blade form; length 75 to 100 mm.; weight 4 to 8 grams.

16051. Platinum Sponges. Each \$0.40

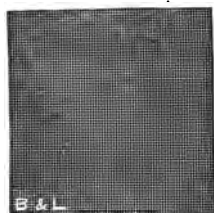
16052. Platinum Spoons. For blowpipe analysis; with or without cover. Bowls 10 to 18 mm. diameter, and 5 to 10 mm. deep. (See page 320.)

16054. Platinum Tipped Crucible Tongs. German silver, with platinum shoes. Length about 220 mm. (See page 320.)

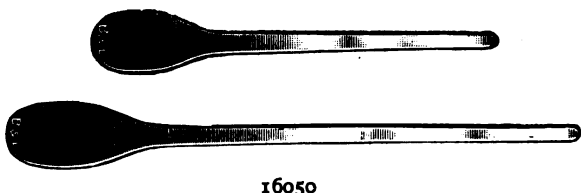
16056. Platinum Tipped Crucible Tongs. With solid platinum tips. Prices quoted on request.



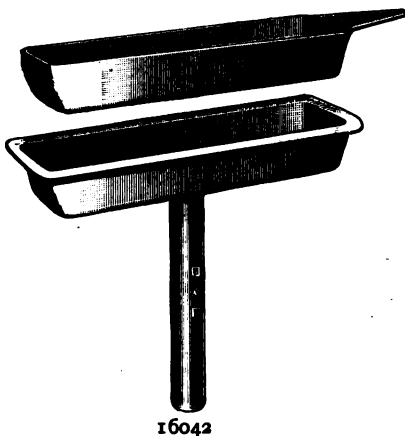
16048



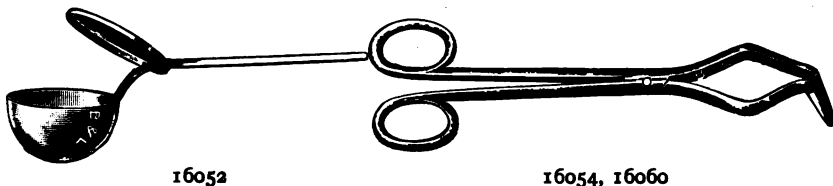
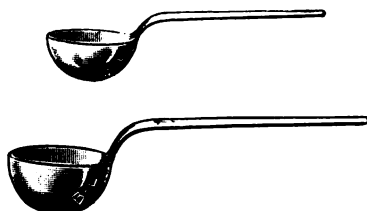
16046



16050



16042



16052

16054, 16060

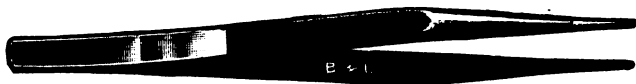


16062

- 16058. Platinum Tipped Crucible Tongs.** Pure nickel, with platinum shoes. Length, about 220 mm.
- 16060. Platinum Tipped Crucible Tongs.** With solid platinum tips.
- 16062. Platinum Tipped Crucible Tongs, Blair's.** Polished steel, with long heavy platinum tips, as described in "Blair's Analysis," 3rd edition, page 35.
- 16064. Platinum Tipped Forceps.** Nickel plated, with heavy platinum shoes. Length, 170 mm.
- 16066. Platinum Tipped Forceps.** Nickel plated, with heavy platinum shoes. Length, 125 mm.
- 16068. Platinum Tipped Forceps.** With heavy solid platinum tips.
- 16070. Platinum Tipped Forceps.** Nickel plated, with solid platinum tips. Length, 135 mm.
- 16072. Platinum Tipped Forceps.** Nickel plated; with solid platinum tips. Length, 90 mm.
- Prices quoted on request.



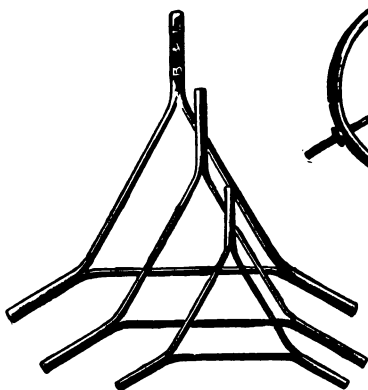
16072



16068



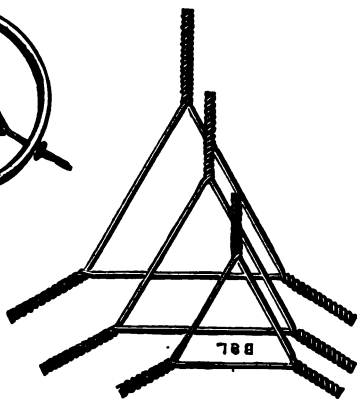
16070



16074



16076, 16078



16075

16074. **Platinum Triangles.** Solid ends; sizes to fit crucibles.

16075. **Platinum Triangles.** Twisted ends; sizes to fit crucibles.

16076. **Platinum Triangles.** To be used with holder as illustrated. An economical form. Sizes to fit crucibles.

16078. **Holder for above triangles; nickel plated.** Each \$1.50
Platinum Tubes for Combustion. See PLATINUM COMBUSTION TUBES.

16080. **Platinum Wire.** Any size furnished. Stock sizes, 12, 14, 16, 18, 20, 21, 22, 23, 24, 26, 27, 28, 30, 36. B. & S. gauge.

16082. **Platinum Wire Holder.** To hold any of the above sizes of wire. Each \$0.50

16084. **Pliers.** Steel; flat nose. (See illustration, page 322.)

Length, mm.	100	125	150	200
Each	.45	.50	.70	1.25

16086. **Pliers.** Steel; flat nose; side cutting. (See illustration, page 322.)

Length, mm.	125	150	200
Each	.80	1.00	1.85

16088. **Pliers.** Steel; end cutting. (See illustration, page 322.)

Length, mm.	100	125	150	200
Each	.80	.80	1.00	1.85



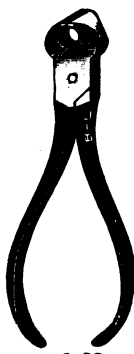
16096



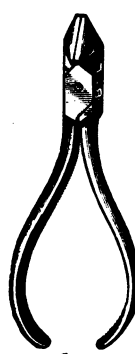
16084



16086



16088



16090



16094

16090. Pliers. Steel; side cutting.

Length, mm.	100	125	150	200
Each	.80	.80	1.00	1.85

16092. Pliers, Button. Straight; for holding buttons while brushing. Length, 125 mm. Each \$0.50

16094. Pliers, Button. Turned-down nose; for holding buttons while brushing. Length, 125 mm. Each \$0.60

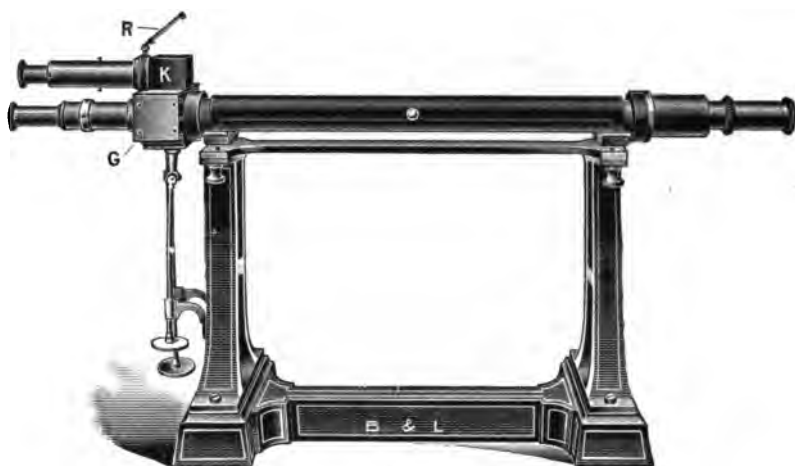
16096. Pliers. Gas tongs, 200 mm. long. Each \$0.85

Pneumatic Troughs. See TROUGHS.

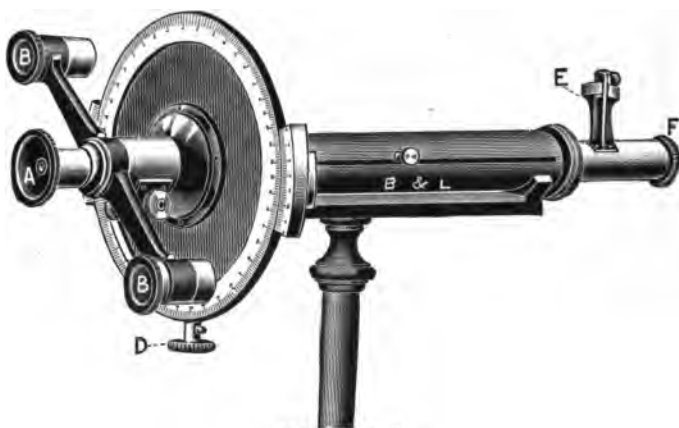
POLARISCOPES

Polariscope, Patent Standard. A half shade apparatus with double quartz wedge compensators and of the most improved construction throughout. Fitted with Lippich's polarizer and illuminating system, telescope with converging oculars, and patented reading device for the scale. The advantages of this instrument are: simplicity of construction, which is very important where instruments are used in laboratories which are far removed from an instrument maker; it is extremely accurate, as the wedges are not mounted in brass and consequently not exposed to pressure; the scale may be readily tested; all parts, including the Nicol prism are thoroughly protected against the influence of temperature and humidity; the form of standard affords a solid foundation, which will be found handy in use; the adjustment of the instrument is such as to allow of quick work and yet is not fatiguing to the eyes after continued use. This polariscope is equally reliable with petroleum, acetylene gas, coal gas, or electric lamps, thus doing away with the inconvenient sodium lamp. Imported to order.

16098. For tubes 200 mm. long. Complete with tubes. Each, Net \$231.50



16098-16102



16106, 16108

16100. For tubes 400 mm. long. Complete with tubes. **Each, Net \$251.50**

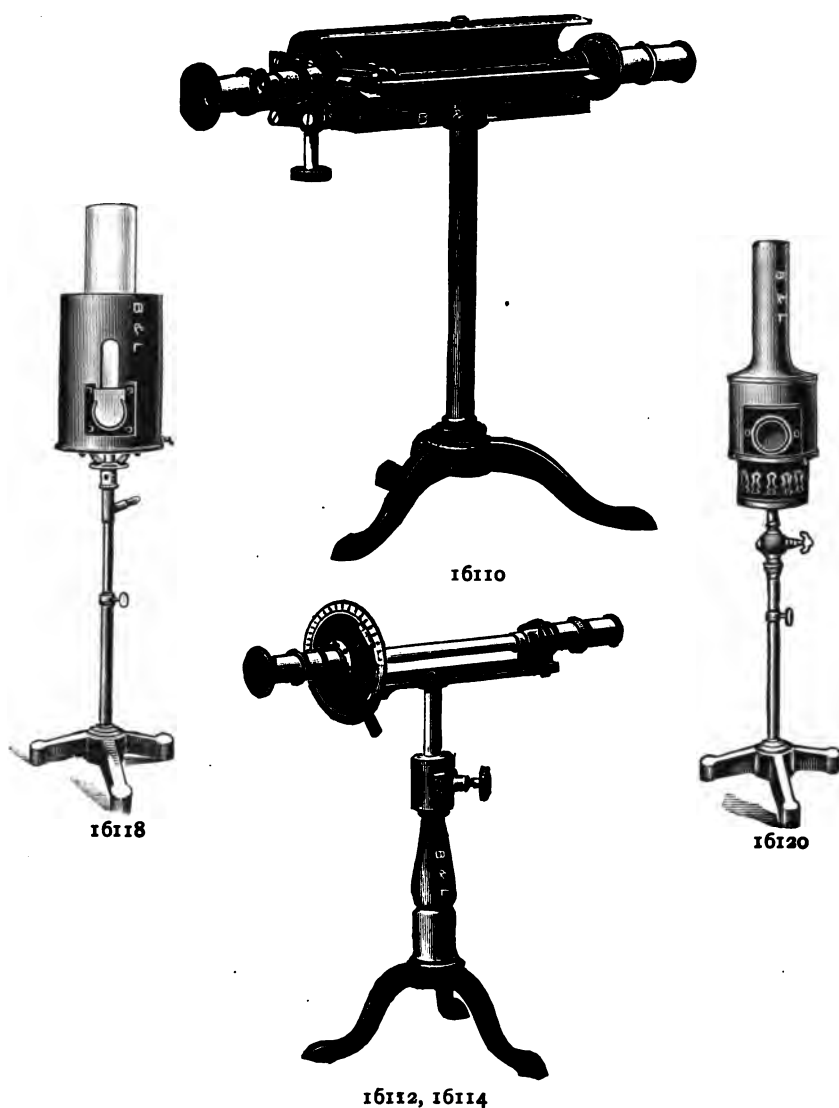
16102. For tubes 600 mm. long. Complete with tubes. **Each, Net \$279.00**

16104. Polariscope Control Tubes. For use with Patent Standard Polariscopes. These tubes enable the operator to have the polariscopes always under control without wasting time. A constant watch can be exercised over the entire length of the scale and a surety of reading may be obtained which would otherwise be possible only by the constant use of many normal solutions. Imported to order.

Length, mm.	200	400
Each, Net	26.00	28.00

16106. Polariscope, Laurent's. A half shade apparatus with Laurent's polarizer, consisting of a single Nicol and a rock crystal plate, with observation tubes of 100, 200, and 220 mm. long and with sodium gas lamp. This apparatus is particularly adapted for exact chemical analysis, reading to 1 minute. Imported to order.

Each, Net \$97.50

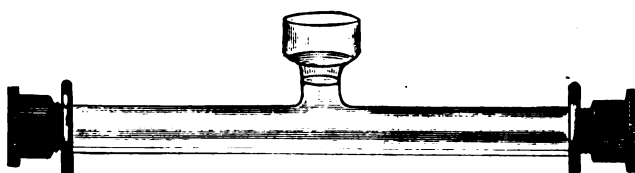


16108. Polariscopes, Laurent's. Same as above but with an extra scale for the direct reading of the percent. of beet sugar. Imported to order.

Each, Net \$104.50

Polariscopes, Schmidt and Haensch. Imported to order. Prices and information given on application.

16110. Polariscopes, Standard Medical. Latest form. A half shade apparatus for urine analysis, with quartz wedge compensator and linear scale. The sugar and albumen in urine can be read off directly down to $1/10$ of 1%. The instrument is provided with one tube



16130



16116



16122

100 mm. long and one 200 mm. long. May be used with either gas or petroleum light. Entire apparatus fitted in mahogany case. Price including lamp.

Each, Net \$51.00

Polariscope, Mitscherlich's Latest Model. A half shade apparatus with graduated scale and vernier reading to $1/10$ degree. Two tubes, one 94.3 mm. long and one 188.6 mm. long. Arranged for the direct reading of the percentage of grape sugar in urine. An excellent instrument for physicians and general laboratory work.

16112. Complete with gas sodium lamp. Each, Net \$46.00

16114. Complete with Barthel's alcohol sodium lamp. Each, Net \$48.00

16116. **Polariscope Lamp, Electric.** A 32 candle power lamp with silvered back. Complete with wire and switch. Each, Net \$10.00

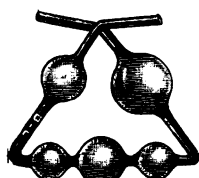
16118. **Polariscope Lamp, Gas.** With incandescent burner, two extra glass cylinders, two extra mantles, and highly polished metal cylinder which acts as a reflector to the flame. Each, Net \$8.25

16120. **Polariscope Lamp, Gas.** With triple burner, metal cylinder reflector, and condensing lens. Each, Net \$10.75

16122. **Polariscope Lamp, Kerosene, Kink's.** With double burner, two extra glass cylinders, and highly polished metal cylinder which serves as reflector to the flame. Each, Net \$7.75



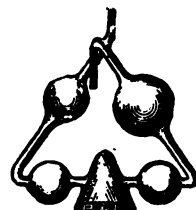
16140



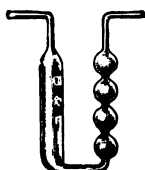
16142



16144



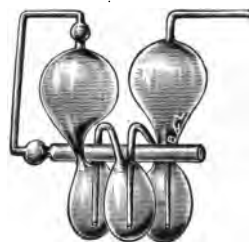
16146



16148



16150



16152

16124. Polariscope Tubes. Of brass, nickel plated.

Length, mm.	25	50	100	200	400	600
Each, Net	3.00	3.00	3.90	3.00	3.50	4.50

16126. Polariscope Tubes. Of glass; mounted.

Length, mm.	25	50	100	200	400	600
Each, Net	2.75	2.75	2.75	2.75	3.10	4.00

16128. Polariscope Tubes. Of glass; unmounted.

Length, mm.	25	50	100	200	400	600
Each, Net	.50	.50	.50	.50	.70	1.05

16130. Polariscope Tubes. Of glass; with filling tube as shown in illustration. This form of tube has several decided advantages: The tube can be readily filled without soiling the hands or corroding the screw threads; the tube is also perfectly filled without bubbles and the opening permits of taking of temperature of liquid while in the tube. Mounted. (See illustration, page 325.)

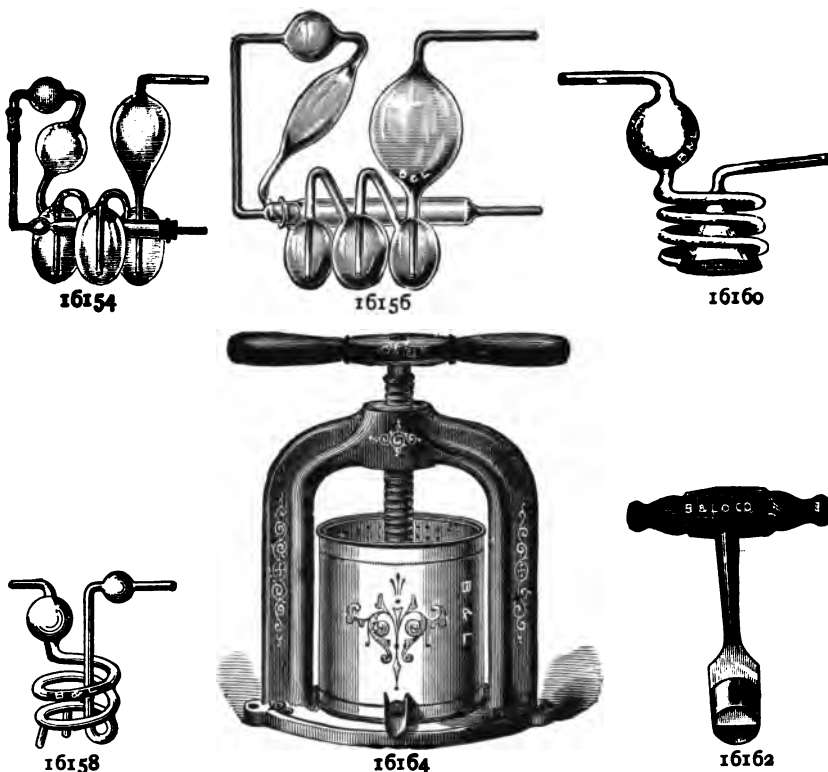
Length, mm.	25	50	100	200	400	600
Each, Net	3.10	3.10	3.10	3.10	3.50	4.25

16132. Polariscope Tubes. Of glass. Same as No. 16130 but unmounted.

Length, mm.	25	50	100	200	400	600
Each, Net	1.05	1.05	1.05	1.05	1.15	1.50

16134. Polariscope Tubes. Of glass; so-called control tubes; for proving the scale of the polariscope. In case. Imported to order.

Length, mm.	200	400
Each, Net	25.00	26.25



16136. Glass covers for Polariscope Tubes. Per ten, Net \$1.15
16138. Rubber washers for Polariscope Tubes. Per ten, Net \$0.20
- Porcelain Plates.** See PLATES.
16140. Porous Cups or Cells. For batteries. (See illustration, page 326.)
- | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|
| Height, mm. | 75 | 75 | 95 | 110 | 120 | 150 |
| Diameter, mm. | 38 | 50 | 50 | 50 | 53 | 56 |
| Each | .10 | .12 | .15 | .18 | .20 | .25 |
| Height | 95 | 135 | 185 | 200 | 280 | |
| Diameter, mm. | 62 | 65 | 80 | 80 | 100 | |
| Each | .18 | .25 | .30 | .35 | .75 | |
16142. Potash Bulbs, Liebig's. With five bulbs. (See page 326.) Each \$0.40
16144. Potash Bulbs, Liebig-Dittmar's. (See page 326.) Each \$0.75
16146. Potash Bulbs, Liebig-Kyll's. (See page 326.) Each \$0.80
16148. Potash Bulbs, Mitscherlich's. (See page 326.) Each \$0.50
16150. Potash Bulbs, Mohr's. (See page 326.) Each \$0.80
16152. Potash Bulbs, Mohr's. With Ca Cl₂ tube. (See page 326.) Each \$1.00
16154. Potash Bulbs, Mohr's. With Ca Cl₂ tube with rubber connections. Each \$1.00
16156. Potash Bulbs, Mohr's. With Ca Cl₂ tube ground in. Each \$1.20
16158. Potash Bulbs, Winkler's.
- | | | | |
|-------------|-----|------|------|
| Height, mm. | 100 | 180 | 250 |
| Each | .75 | 1.20 | 2.00 |

16160. Potash Bulbs, Winkler-Kyll's. (See page 327.) Each \$1.10

16162. Potato Cutter. Of steel, nickel plated, with ebony handle. A sharpened cylinder with sharpened septum. A cylinder, 18 mm. diameter, may be cut from a potato and divided at one thrust. (See page 327.) Each \$1.65

Pouring Irons or Moulds. See MOULDS.

Precipitating Jar. See JARS.

16164. Presses, Tincture. Strong and durable. (See page 327.)

Capacity, liters	1	2	4	8
Weight, kilos.	9	12	20	30
Each, Net	3.00	4.00	6.50	9.00

Presses, Cork. See CORK PRESSES.

Pressure Bottle. See BOTTLES.

Prisms, Equilateral. Accurately ground and polished.

Crown Glass.

Flint Glass.

Catalogue Number.	Size of face, mm.	Each.	Catalogue Number.	Size of face, mm.	Each.
16166	12	\$2.50	16174	12	\$4.00
16168	25	3.50	16176	25	6.00
16170	38	6.00	16178	38	9.00
16172	50	9.00	16180	50	15.00

Prisms, Rectangular. Accurately ground and polished.

Crown Glass.

Flint Glass.

Catalogue Number.	Size of face, mm.	Each.	Catalogue Number.	Size of face, mm.	Each.
16182	6	\$2.00	16200	6	\$2.00
16184	12	2.25	16201	12	2.25
16186	18	2.50	16202	18	2.50
16188	25	3.00	16204	25	3.00
16190	32	4.00	16206	32	4.00
16192	38	5.00	16208	38	5.00
16194	44	6.00	16210	44	6.00
16196	50	7.50	16212	50	7.50
16198	62	10.00	16214	62	10.00

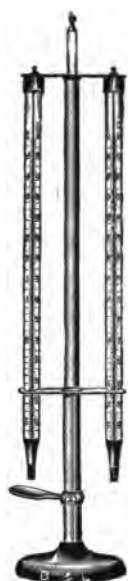
Prisms, Nicol's.

Diagonal Face.

Square Face. Extra Wide Field.

Catalogue Number.	Face mm.		Catalogue Number.	Face mm.	
16262	6	*	16280	6	*
16264	7	*	16282	7	*
16266	8	*	16284	8	*
16268	9	*	16286	9	*
16270	10	*	16288	10	*
16272	11	*	16290	11	*
16274	12	*	16292	12	*
16276	13	*	16294	13	*
16278	14	*	16296	14	*

*Prices on Application.



16298



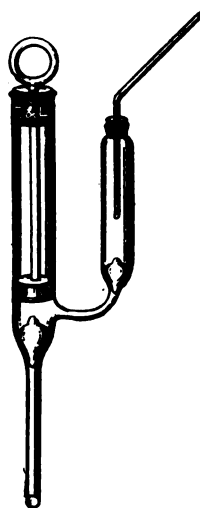
16308



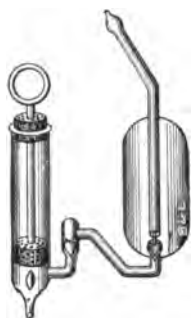
16310



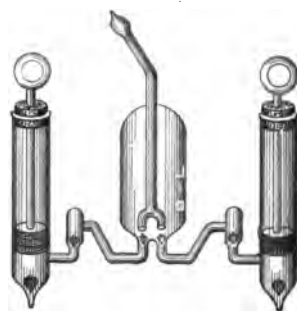
16300



16306



16302



16304

Probangs. See BRUSHES, TEST TUBE.

16298. Psychrometer, August's. Two thermometers of Jena Normal glass, graduated in $1/5$ degree from -20° to $+50^{\circ}\text{C.}$, and mounted on nickel plated metal support with cup for wet-bulb thermometer. Height, 500 mm. Each \$10.00

16300. Pulse Glasses. Each \$0.30

Pump, Acid. See ACID PUMP.

Pumps, Air. See AIR PUMPS.

Pumps, Filter. See AIR PUMPS.

16302. Pump. Force or fire engine. Single cylinder. Each \$1.50

16304. Pump. Double cylinder. Each \$3.25

16306. Pump. Glass model of force pump; with conical ground glass valves. Each \$1.20

16308. Pump. Glass model of suction pump; with conical ground glass valves. Each \$1.00



16312-16316



16324

16309. Pyrometer, Optical. For quickly determining the temperature of incandescent substances by direct observation. Very useful in iron, gas, glass, and pottery works and all industries having furnaces and incandescent substances to be brought up to and kept at a certain temperature. Every instrument guaranteed. Complete in leather case with shoulder strap, and instructions for use. Imported to order.

16310. Pyrometers. For high temperatures; reading up to 1500°F. (See illustration, page 329.)

Diameter of dial, mm.	125	175
Each, Net	25.00	27.00

Pyrometers for Oil Testing. See OIL TESTING APPARATUS.

16311. Pyrometer, Thermo-Electric, Le Chatelier's. For high temperature. The body, 110 cm. long, is of iron and has platinum and platinum-rhodium wires running through its entire length, forming the "Couple Le Chatelier." Imported to order.

16311a. Pyrometer, Thermo-Electric, Le Chatelier's. With body of porcelain and enameled inside tube; 20 mm. outside diameter, and 57 cm. long. Imported to order.

16311b. Registering Galvanometer for use with Le Chatelier's Pyrometer. Imported to order.

Reading Glasses, Magnifying. These glasses are intended for those examinations which require only slight magnifying power and where large field is desired. They are carefully ground and neatly and durably mounted, having nickered rim and ebonized wood handle.

Catalogue Number.	Diam'r of Lens in.	mm.	Each.	Catalogue Number.	Diam'r of Lens in.	mm.	Each.
16312	2	50	\$.60	16318	3½	87	\$1.50
16314	2½	62	.80	16320	4	100	2.00
16316	3	75	1.00	16322	5	125	2.50



16336



16340

Reading Glasses, Reducing. These glasses are useful in the preparation of illustrations, sketching groups of objects, etc. The lens is double concave, and mounted in nicked rim with ebonized wood handle.

Catalogue Number.	Diam'r of Lens in.	mm.	Each.	Catalogue Number.	Diam's of Lens in.	mm.	Each.
16324	2	50	\$1.00	16330	3½	87	\$3.00
16326	2½	62	1.50	16332	4	100	4.00
16328	3	75	2.00	16334	5	125	5.00

Reagent Bottles. See BOTTLES, DROPPING, AND REAGENT.

16336. Reagent Case. Made of cherry, with mitred corners, and fitted with lock. Size, 230 mm. long; 100 mm. wide, and 110 mm. deep. Holds five 15 cc. reagent bottles (No. 12728) and has space for instruments. Complete with bottles. **Each \$3.75**



16342

16340. Reagent Stand. Holds five 15 cc. reagent bottles (No. 12728) and has receptacles for slides and cover-glasses and a shallow receptacle for instruments. Size, 296 mm. long, 80 mm. wide, 35 mm. deep. Complete with bottles. (See illustration, page 331.) **Each \$2.00**

16342. Reagent Stand. Specially adapted for laboratory individual use. Of the various styles of reagent cases and stands, this has proven the most practical. Each student can be supplied with a stand, giving complete set of reagents at comparatively little cost. The bottles are covered by a bell glass the flange of which fits into a groove in the oak base making a dust proof enclosure. Holds seven 15 cc. reagent bottles (No. 12728) and a 30 cc. balsam bottle (No. 12718). Complete with bottles. **Each \$4.00**

Reagents. See CATALOGUE OF CHEMICALS AND REAGENTS.

16344. Receivers, Bruehl's. For distillation in vacuum; with five cylinders.

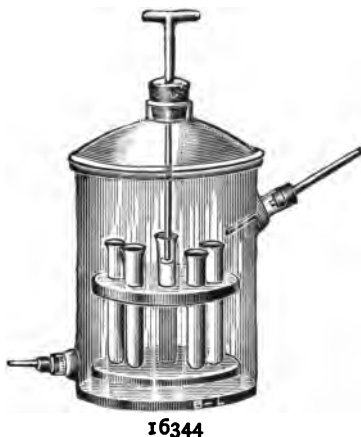
Capacity of cylinders, cc.	25	40	80
Each	6.50	7.50	11.00

16346. Receivers. Glass; plain.

Capacity, cc.	50	100	250	500	1000	2000
Each	.08	.09	.12	.18	.25	.45

16348. Receivers. Glass; with tubulature.

Capacity, cc.	50	100	250	500	1000	2000
Each	.15	.18	.24	.40	.45	.60



16350. Receivers.	Glass; with two tubulatures.			
	Capacity, cc.	125	250	500
	Each	.30	.40	.45
16352. Receivers.	Glass; with three tubulatures.			
	Capacity, cc.	125	250	500
	Each	.35	.50	.60

Receivers for Air Pumps. See BELL GLASSES.

Reduction Tubes. See ARSENIC TUBES, AND TUBES.

16354. Reductor. For the determination of phosphorous by a rapid method as described in Blair's "Analysis of Iron," 5th. Edition, page 93.
Tube only, with glass stop cock. **Each \$2.75**

16356. Refractometer, Abbe's. Zeiss Optical Works. With Improved Prism Mounting and Compensator. For determining, with white light, the index of refraction for N_D between 1.3 and 1.7 and the dispersion, of liquids and also of solids having one polished surface. The measurements obtained are correct to 2 units of the 4th. decimal place, the 3rd. decimal place being read off directly. Directions for use accompany each instrument. In case, with lock and key. Imported to order. (See page 334.) **Each, Net \$104.00**



16356, 16358

16360, 16364

- 16358. Refractometer, Abbe's. Zeiss Optical Works.** The above instrument (No. 16356) without compensator, thereby dispensing with the means of measuring the dispersion, and limiting its use to the determination, by sodium light, of the index of refraction for N_D only. In case with lock and key. Imported to order.

Each, Net \$74.00

- 16360. Refractometer, Abbe's. Zeiss Optical Works.** With heating arrangement in connection with prism mounting, and having compensator, giving same range and accuracy of measurements as No. 16356; the double walled metal casing of prism mounting permitting the free circulation (as indicated by arrows in figure) of water heated to a given temperature thus insuring a uniform heating of substance under examination. Complete with thermometer having screw-thread attached and graduated in degrees from 0 to 75°C., in case with lock and key. Imported to order.

Each, Net \$120.00

- 16362. Refractometer, Abbe's.** Thermometer, with screw-thread attached, and graduated in degrees from 0 to 75°C.

Each, Net \$1.00

- 16364. Refractometer, Abbe's. Zeiss Optical Works.** Instrument No. 16360, without compensator, but including thermometer. Imported to order.

Each, Net \$91.00

- 16366. Refractometer for Butter Examination. Zeiss Optical Works.** Primarily intended for the preliminary refractometric examination of butter, and also applicable for testing fats, oils, etc.; eye-piece scale gives values between $N_D=1.42$ and $N_D=1.49$. Furnished with thermometer having screw-thread attached and graduated in $\frac{1}{2}^\circ$ from 0° to 50°. Complete in case, with directions for use and including bottle of standard liquid for verifying the adjustment of eye-piece scale. Imported to order.

Each, Net \$68.00



16366, 16368



16370



16378



16376



16372



16374

16368. Thermometer, with screw-thread attached and graduated in $\frac{1}{2}^{\circ}$ from 0° to 50° . For instrument No .16366. **Net \$0.90**

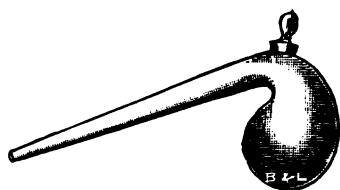
16370. Special thermometer, for butter and lard testing. Giving directly the highest allowable refractometric scale-numbers between the temperatures of 30° and 40° C.; with screw-thread attached.

Each, Net \$2.00

16371. **Refractometers, Pulfrich's.** The original pattern as designed by Dr. Pulfrich for use at Bonn University. Price and description on application.

Regulators, Gas and Time. See GAS REGULATORS.

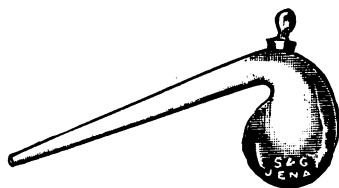
16372. **Respirator, Automatic.** For protection of throat and lungs in laboratories, manufactories, mines, etc., where the atmosphere is filled with dust and poisonous gases. **Each, Net \$2.00**



16380



16382



16384



16386

Rests, Pipette. See PIPETTE RESTS.

- 16374. Retorts, Copper.** For making oxygen. Of heavy polished copper, with iron clamp and brass delivery tube fitting by ground joint. Diameter of tube, 12 mm. (See illustration, page 335.)

Capacity, cc.	250	500	1000	2000
Each	1.80	2.00	2.50	3.00

- 16376. Retorts, Copper.** Made of heavy copper, tin lined. For distilling water recovering alcohol, etc. (See illustration, page 335.)

Capacity, liters	2	4	8	12	20
Each	6.00	7.00	9.00	11.25	12.50

- 16378. Retorts, Baloc Glass.** Plain. (See illustration, page 335.)

Capacity, cc.	25	50	75	150	250
Each	.09	.10	.11	.12	.16
Capacity, cc.	500	1000	2000	4000	8000
Each	.22	.30	.45	.75	1.25

- 16380. Retorts, Baloc Glass.** With ground glass stopper.

Capacity, cc.	25	50	75	150	250
Each	.20	.20	.25	.30	.35
Capacity, cc.	500	1000	2000	4000	8000
Each	.50	.70	.80	1.35	2.90

- 16382. Retorts, Jena Glass.** Plain; without tubulature.

Capacity, cc.	50	100	250	500	1000
Each	.13	.18	.25	.40	.54
Capacity, cc.	2000	3000	4000	8000	
Each	.80	1.10	1.20	2.65	

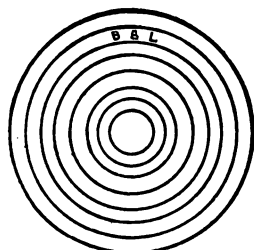
- 16384. Retorts, Jena Glass.** With tubulature and glass stopper.

Capacity, cc.	50	100	250	500	1000
Each	.22	.25	.38	.60	.75
Capacity, cc.	2000	3000	4000	8000	
Each	1.15	1.56	1.70	3.50	

Retorts, Jena Glass. Larger sizes, up to 40 liters, imported to order.



16396



16392



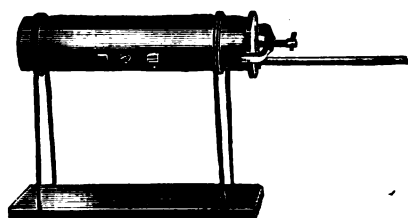
16390



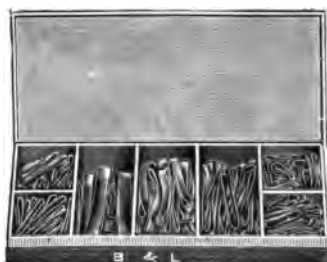
16398



16400



16388



16404

16386. Retorts, Iron. For distilling mercury, etc. Cover removable, fastened by screw clamp; delivery tube ground into cover.

Capacity, cc.	250	500	1000	2000	4000
Each	2.00	2.50	3.00	4.50	6.50

16388. Retorts, Iron. Cylindrical form; for making large quantities of oxygen, taking from 1 to 1½ kilos. of chemicals for a charge. On iron support. **Each \$13.00**

Retort, Skidmore's. See CRUCIBLE, SKIDMORE'S.

Retort Adapters. See ADAPTERS.

Retort Supports. See SUPPORTS.

Riders. See BALANCE RIDERS.

16390. Rings, Concentric. Of copper, tinned inside; for water baths, etc., with cover.

Number in set	3	4	5	6	7
Outside diameter, mm.	100	125	150	200	250
Per set	.40	.50	.70	1.00	1.50

16392. Rings, Concentric. Iron; for tripods.

Number in set	3	4	5	6	7
Outside diameter, mm.	140	165	190	225	260
Per set	.40	.50	.70	1.00	1.50

16394. Rings, Concentric. Porcelain; for water baths. With covers.

Number in set	5	6
Outside diameter, mm.	150	200
Per set	1.00	1.25



16406



16408



16416



16422



16446



16426

Rings, Straw. See STRAW RINGS.

Rings, Suberite. See SUBERITE RINGS.

16396. Rings, Support. Applicable to any support. With clamp.

Diameter, mm.	75	100	130	175
Each	.15	.16	.18	.22

16398. Rings, Support. With extension; to be used with clamp holder.

Diameter, mm.	75	100	130	175
Each	.08	.10	.12	.15

16400. Roasting Dishes. Battersea. (See illustration, page 337.)

Diameter, mm.	65	75	100	125	150	175
Per dozen, Net	.65	.80	.90	1.10	2.10	2.75

16402. Roasting Dishes. Denver Fire Clay.

Diameter, mm.	75	100	125	150
Per dozen, Net	.80	.90	1.10	1.75

Rods, Glass. See GLASS RODS.

Rubber Bags. See GAS BAGS.

16404. Rubber Bands. Of pure gum; assorted sizes. **Per box \$1.35**

16406. Rubber Bulbs. For pipettes; of pure gum.

Capacity, cc.	2	3	5	10
Per ten	.25	.30	.35	1.00

16408. Rubber Bulbs. For large pipettes, syringes, etc.

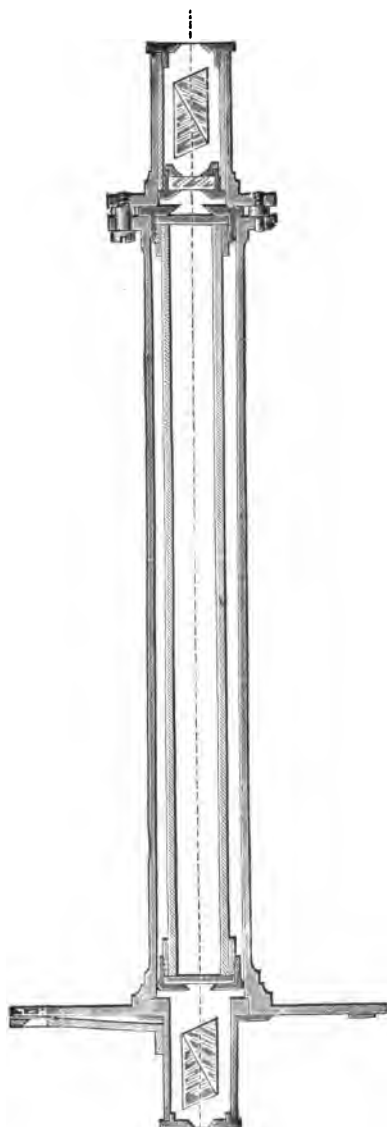
Length, mm.	60	80	90
Diameter, mm.	32	38	45
Each	.10	.12	.15

16410. Rubber Bulb. With valve; for wash bottles. Capacity, 50 cc.

Each \$0.25

16412. Rubber Bulb. Pure gum; with long flexible tube; for gas analysis apparatus. **Each \$0.30**

16414. Rubber Bulb.	Double; with net for constant blast.	Each	\$1.50						
16416. Rubber Caps.	For covering tops of test tubes, cylinders, etc.								
	Diameter, mm.	12	18	25	50	75			
	Per hundred	2.00	2.35	2.65	5.00	9.35			
16418. Rubber Cloth.	Heavy, pure gum; for foot blower discs, etc.								
	Per five hundred grams					\$4.00			
16420. Rubber Fingers.	Of pure gum; finest quality.								
	Size	Small	Large						
	Per ten	.35	.35						
16422. Rubber Gloves.	Of pure gum; finest quality; 125 mm. gauntlet.								
	Size	6 to 9	10 to 12						
	Each	1.40	1.50						
16424. Rubber Policeman.	For washing down precipitates from the walls of beakers. (Glass rods with rubber tips.)								
	Each					\$0.10			
16426. Rubber Stoppers.	Pure gum and best quality; will not harden. Having had large experience in the line we offer below rubber stoppers which cannot be surpassed in purity or resistance to chemicals. Our print appears on all of our stoppers. Supplied solid unless ordered with one or two holes. Length, 25 mm.								
	Numbers	00	0	1	2	3	4	5	6
	Diameter, top, mm.	14	17	18	20	23	25	27	32
	Diameter, bottom, mm.	10	12	15	16½	18	20	23	26
	Approx. number, with two holes, in 450 grams (1 lb.)	132	85	60	50	40	32	27	20
	Per 450 grams (1 lb.)								\$2.00
	Numbers	7	8	9	10	11	12	13	
	Diameter, top, mm.	37	41	45	50	56	65	70	
	Diameter, bottom, mm.	30	33	37	42	50	59	60	
	Approx. number, with two holes, in 450 grams (1 lb.)	14	12	9	7	6	4¼	4	
	Per 450 grams (1 lb.)								\$2.00
16427. Rubber Stoppers.	Red or antimony. Very best quality.								
	Numbers	00	0	1	2	3	4	5	6
	Diameter, top, mm.	14	17	18	20	23	25	27	32
	Diameter, bottom, mm.	10	12	15	16½	18	20	23	26
	Approx. number with two holes in 450 grams (1 lb.)	132	85	60	50	40	32	27	20
	Per 450 grams (1 lb.)								\$3.00
	Numbers	7	8	9	10	11	12	13	
	Diameter, top, mm.	37	41	45	50	56	65	70	
	Diameter, bottom, mm.	30	33	37	42	50	59	60	
	Approx. number with two holes in 450 grams (1 lb.)	14	12	9	7	6	4¼	4	
	Per 450 grams (1 lb.)								\$3.00
16428. Rubber Tissue.		Per 25 grams	\$0.25						



16448

16430. Rubber Tubing. Black; pure gum; best quality; seamless; will not harden; very desirable. Original length, $3\frac{1}{2}$ meters (12 feet.)

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.03	.06	.09	.12	.18	.24	.32	.40

16432. Rubber Tubing. Black; same as above, but heavy wall.

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.08	.14	.18	.22	.27	.40	.55	.85

16434. Rubber Tubing. Pure gum; very elastic; for Gooch crucibles.

Diameter mm.	25	30	40
Per 30 cm. (1 ft.)	.15	.20	.25

16436. Rubber Tubing. Red or antimony. Very best quality.

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.03	.05	.09	.12	.18	.24	.32	.40

16437. Rubber Tubing. Red or antimony; same as above, but heavy wall.

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.07	.11	.14	.17	.20	.30	.40	.50

16438. Rubber Tubing. White; corrugated; heavy wall for gas, etc.

Inside diameter, mm.	3	5	6	8	9	12
Per 30 cm. (1 ft.)	.02	.03	.04	.05	.09	.17

16440. Rubber Tubing, Cloth Impression. Extra quality; very flexible; will not split; air-tight and suitable for gas or liquid. This tubing is hand made, specially for us.

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.05	.06	.08	.09	.15	.20	.26	.30

16442. Rubber Tubing, Cloth Impression. Same quality as above, but double thickness.

Inside diameter, mm.	3	5	6	8	9	12	15	18
Per 30 cm. (1 ft.)	.07	.12	.16	.20	.22	.25	.28	.35

16444. Rubber Tubing, Pressure. For use with fitter pumps, etc.

Inside diameter, mm.	5	6	8	9	12
Per 30 cm. (1 ft.)	.20	.22	.26	.30	.40

Rules. See MEASURES.

16446. Rupert's Drops. (See illustration, page 338.) **Per ten \$0.20**

16448. Saccharometer, Zeiss Portable. For ascertaining the rotatory power and percentage of sugar, etc., in solutions. It provides for the use of a 200-mm. layer of sugar solution, whose rotatory power is measured in degrees and seconds. The analyser and polarizer are Nicol prisms. Observations are made by holding the instrument in the hand and directing it toward a suitable back-ground. The sugar solution is held by a removable glass cylinder closed at both ends by glass plates. Complete in case with directions.

Each, Net \$35.00

Saccharometers, Other. See HYDROMETERS, POLARISCOPES, COLOR COMPARATORS, AND URINARY APPARATUS.

Safety Tubes. See FUNNEL TUBES.

Sample Bottles for Oils. See BOTTLES.

Sample Tubes. See VIALS.

Sand for Cleaning Platinum Vessels, etc. See SEA SAND.

16452. Sand Baths. Deep form; of sheet steel.

Diameter, mm.	75	100	125	150	175	200	250
Each	.10	.12	.15	.20	.25	.30	.40

16454. Sand Baths. Shallow form; of sheet steel.

Diameter, mm.	50	75	100	125	150	175	200	250
Each	.08	.08	.10	.12	.15	.20	.25	.30



16470



16462



16466, 16468



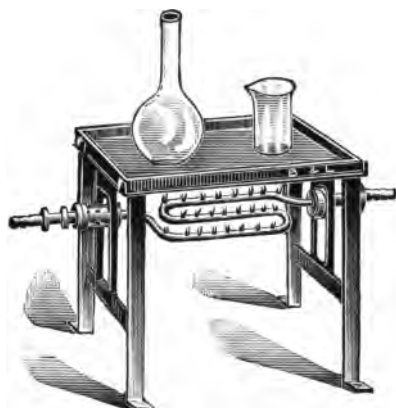
16452



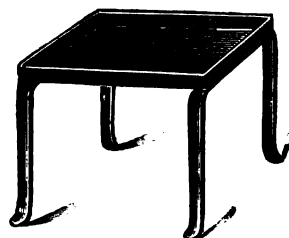
16454



16472



16456



16458, 16460

16456. Sand Bath or Hot Plate, Ruedorff's. Of wrought iron; with three-row burner as illustrated.

Size, mm.	200 x 250	250 x 300
Each	6.00	7.00

16458. Sand Bath or Hot Plate. Of iron.

Size, mm.	150 x 200	200 x 250	250 x 300
Each	1.20	1.50	2.00

16460. Sand Bath or Hot Plate. Same as No. 16458, but on removable legs.

Size, mm.	150 x 200	200 x 250	250 x 300
Each	1.75	2.00	2.50

16462. Sand Glasses. In polished wooden stand.

Time, minutes	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3	5	10	30	45	60
Each	.30	.30	.30	.30	.30	.35	.70	1.25	1.40	1.50

16464. Sand Paper. Assorted.

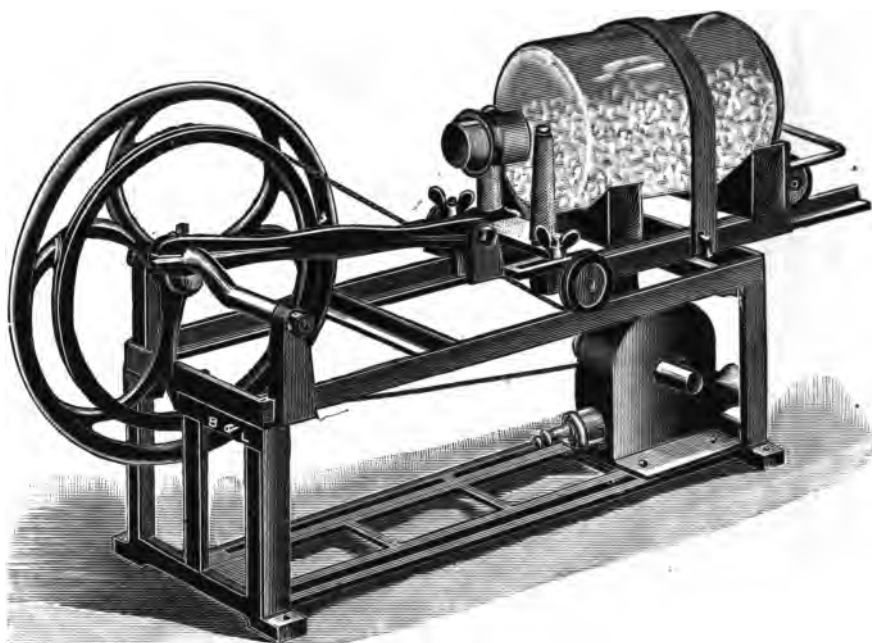
Per ten sheets \$0.20

Saws, Bone. See DISSECTING INSTRUMENTS.

Scales and Scale Pans. See BALANCES.

Scalpels. See DISSECTING INSTRUMENTS.

Scissors. See DISSECTING INSTRUMENTS AND SHEARS.



16477

16466. Scoop, Agateware. Agate nickel steel. Length, 135 mm.; width, 75 mm. Each \$0.22

16468. Scoop, Agateware. Flint enameled; acid proof. Length, 135 mm.; width, 75 mm. Each \$0.30

16470. Scoops, Horn.

Length, mm.	100	120	140	160
Each	.20	.25	.30	.35

16472. Scorifiers, Battersea.

Diameter, mm.	25	30	38	50	56	62
Per hundred, Net	1.15	1.15	1.15	1.16	1.17	1.30
Diameter, mm.		68	75	90	100	125
Per hundred, Net		1.60	2.00	2.40	2.90	3.30

16474. Scorifiers. Denver fire clay.

Diameter, mm.	38	50	57	63
Per hundred, Net	1.20	1.20	1.20	1.30
Diameter, mm.	70	75	88	100
Per hundred, Net	1.60	2.00	2.50	3.00

Scorifier Moulds. See MOULDS.

Scorifier Tongs. See TONGS.

Scrapers for Muffles. See MUFFLE SCRAPERS.

16476. Sea Sand. For cleaning platinum vessels, etc.

Per five hundred grams \$0.10

Shades, Glass. See BELL GLASSES.

16477. Shaking Apparatus. Horizontal form, consisting of wagon for carrying one bottle five liters capacity, frame, and wheels for either hand or power. Without motor. Each \$28.00

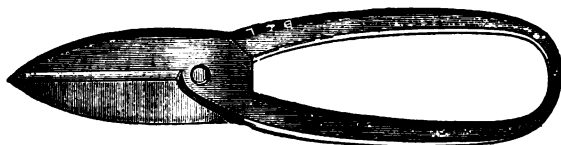


16486

16488

16490

16492



16484

16478. Shaking Apparatus. Same as 16477 but for two bottles of five liters capacity. Each \$32.50

16480. Shaking Apparatus, Rabe's. For use with Rabe's motor (see motors). Price without motor. Each \$7.00

16482. Shaking Apparatus, Rabe's. Complete with motor. Each \$13.00

16484. Shears, Brown's. Of polished steel.

Length, mm.	150	175	200	250
Each	1.00	1.20	1.40	1.60

16486. Shears, Cloth. With nickeled blades and japanned handles.

Length, mm.	125	150	200	250	300
Each	.35	.40	.50	.80	1.00

Shears, Laboratory. Very strong; bolt and nut joint; large handles. Blades nickeled; handles japanned. Length, 195 mm.; length of blades, 60 mm.

16488. Shears, Laboratory. Straight blades. Each \$0.70

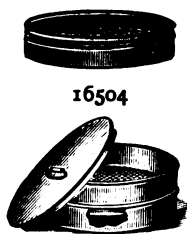
16490. Shears, Laboratory. Curved blades. Each \$1.00

16492. Shears, Tinner's. For cutting metal.

Length, mm.	250	290	325	350	375
Each	1.15	1.20	1.60	2.00	2.40



16538



16518-16528



16534



16536

Sieves. Brass gauze, with wooden frame.

		Diameter, mm.					
			125	150	200	250	300
16494.	Sieves. With 10 mesh.	Each	.28	.30	.44	.54	.60
16496.	Sieves. With 20 mesh.	Each	.28	.30	.44	.54	.60
16498.	Sieves. With 40 mesh.	Each	.35	.40	.50	.60	.75
16500.	Sieves. With 60 mesh.	Each	.40	.45	.60	.75	.95
16502.	Sieves. With 80 mesh.	Each	.60	.70	.95	1.15	1.40
16504.	Sieves. With 100 mesh.	Each	.80	.95	1.25	1.65	2.00
Sieves. Brass gauze; with brass frame.		Diameter, mm.					
			125	200			
16518.	Sieves. With 10 mesh.	Each, Net	1.00	1.50			
16520.	Sieves. With 20 mesh.	Each, Net	1.00	1.50			
16522.	Sieves. With 40 mesh.	Each, Net	1.05	1.55			
16524.	Sieves. With 60 mesh.	Each, Net	1.10	1.60			
16526.	Sieves. With 80 mesh.	Each, Net	1.15	1.75			
16528.	Sieves. With 100 mesh.	Each, Net	1.30	2.05			

16534. **Sieves.** Brass gauze, with brass frame, cover, and receiver. Nested, one sieve fitting on top of another; for separating mixed substances into different grades of fineness. Meshes 20, 40, 60, 80, and 100 in each set.

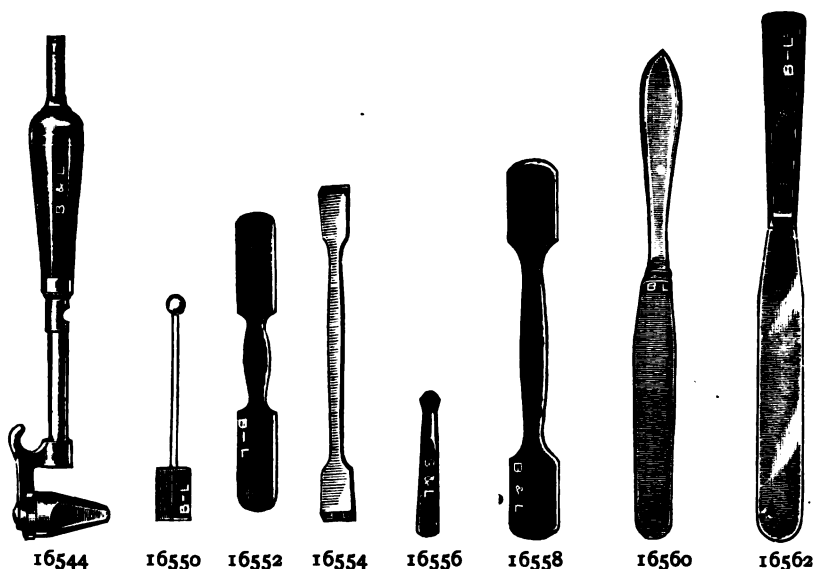
Diameter, mm.	125	200
Per set, Net	6.65	10.00

Slides. See MICROSCOPICAL OBJECT SLIDES.

Sodium Spoons. See DEFLAGRATION SPOONS.

16536. **Soil Borer.** American form. For taking sample of earth from different depths. Has steel boring point screwed to a steel rod with wooden handle. Diameter, 125 mm. **Each \$7.00**
16538. **Soil Borer, Fraenkel's.** Complete with handle. The handle of the large size is in two sections. When the borer is inserted to the proper depth, a turn of the handle closes the cavity containing the sample of earth.

Length, cm.	100	200
Each	18.00	25.00



16542

16540. Soldering Iron and Scraper. Each \$0.50
 16542. Soldering Iron Heater. For gas. Each \$1.50
 16544. Soldering Iron, Self Heating. Can be attached directly to gas supply. Each \$2.40

16546. Spatulas, Aluminum. Spatula on each end.

Length, mm.	130	150	210	250	300
Each	.25	.35	.50	.60	.90

16548. Spatulas, Bone. Very best quality; spatula on each end.

Length, mm.	80	100	120	150	170
Each	.10	.12	.13	.15	.20

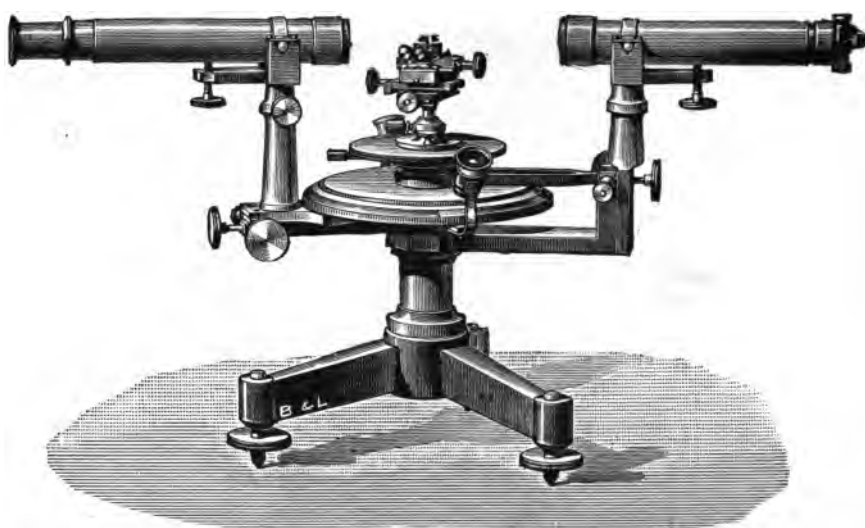
Spatulas, Bone, with Spoon End. See SPOONS.

16550. Spatula, Glass. With ground blade. Length, 150 mm. Each \$0.15

16552. Spatulas, Horn. Best quality; spatula on each end.

Length, mm.	80	100	120	150	180	200	220	240	280	300
Each	.06	.08	.10	.12	.15	.20	.25	.35	.40	.50

Spatulas, Horn, with Spoon End. See SPOONS.



16564

16554. **Spatulas, Nickel.** Solid; spatula on each end.

Length, mm.	120	150	180	210
Each	.40	.50	.65	.85

16556. **Spatulas, Porcelain.**

Length, mm.	105	130	160	185	235	260	290	310	340
Each	.25	.25	.35	.35	.55	.70	.70	.90	.90

16558. **Spatulas, Porcelain.** Spatula on each end.

Length, mm.	105	130	160	185	235	260	290	310	340
Each	.28	.28	.40	.40	.60	.80	.80	1.00	1.00

Spatulas, Porcelain. With Spoon End. See SPOONS.

16560. **Spatulas, Steel.** Flexible steel blade with steel handle; nickel plated.

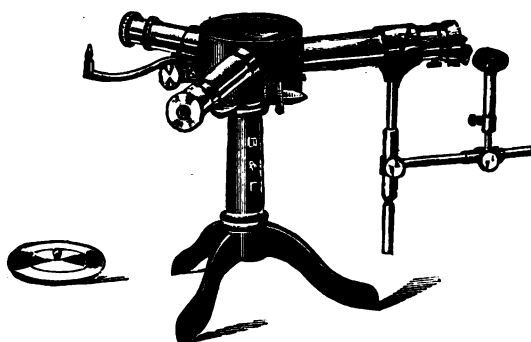
Length of blade, mm.	75	100	125	150
Each	.50	.55	.60	.65

16562. **Spatulas, Steel.** So-called palette knife. Flexible steel blade, with wooden handle.

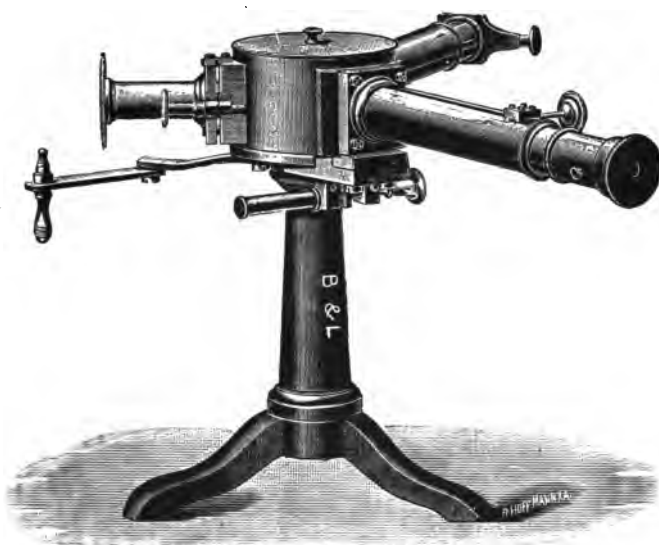
Length of blade, mm.	75	100	125	150	175	200	250	300
Each	.25	.26	.30	.35	.50	.60	1.00	1.70

16564. **Spectrometer and Goniometer Combined.** This instrument is offered as a most desirable piece of laboratory apparatus. It is mounted on a heavy tripod base with leveling screws. The circle is 15 cm. in diameter, graduated on silver to $1/60^\circ$, and reading to 30 seconds by means of two verniers and microscopes placed 180° apart. Telescope and collimeter are of 22 mm. aperture and equipped with lenses of high quality. The telescope carries a mirror eyepiece. A comparison prism is attached to the collimeter. A heavy flint dispersing prism with 35 mm. circular faces accompanies the instrument.

Each, Net \$90.00



16574



16572

16566. Support for centering crystals, to be used with No. 16564. Each, Net \$24.00
16568. Grating holder for use with No. 16564. Each, Net \$8.00
16570. Complementary objective to be used with No. 16564, to facilitate the adjustment of crystals. Each, Net \$6.40
16572. **Spectroscope, Large Model.** With extra dense flint prism, dispersion 7 degrees; slit and observation telescopes 26 mm. diameter and 234 mm. focus. With telescope for the scale and adjustable slit with comparison prism. The observation telescope is adjustable by micrometer screw; focusing adjustment by rack and pinion. Imported to order. Each, Net \$115.50



16576, 16578



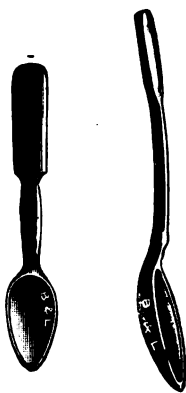
16580

- 16574. Spectroscope, Small Model.** With dense flint glass prism, dispersion 4 degrees, slit and observation telescopes of 22 mm. diameter and 180 mm. focus. Otherwise same as large model. **Each, Net \$55.50**
- 16576. Spectroscope. For laboratory Work.** With prism of medium dense flint glass, dispersion 4 degrees. The observation and slit tubes are of 20 mm. diameter and 143 mm. focus. With telescope for the scale, and slit with micrometer screw and comparison prism. **Each, Net \$29.00**



16586, 16588

- 16577. Spectroscope.** Same as No. 16576, but without telescope for the scale.
Each, Net \$23.00
- 16578. Spectroscope.** Same as No. 16576, but without telescope for the scale or comparison prism.
Each, Net \$19.25
- 16580. Spectroscope, Direct Vision.** For student use. This instrument is provided with prism showing the principal Fraunhofer lines, and with adjustments whereby it can be focused for different eyesights. The slit is protected by means of a glass plate, thus preventing dust from lodging on it. This is an exceptionally good instrument at a low price. With nickel tube mounted on polished wooden support as per illustration, page 349.
Each, Net \$6.15
- 16582. Spectroscope** only; same as No. 16580, but without support; in box.
Each, Net \$5.40
- 16584. Spectroscope.** Same as No. 16580, with attachment for holding tube for absorption spectral experiments.
Each, Net \$7.00
- 16586. Spectroscope, Direct Vision.** With five prisms, achromatic lenses, and adjustable slit. Will show many of the Fraunhofer lines, the bright lines of metals and gases, and the absorption bands in colored glass crystals or liquids. Length, 75 mm.; diameter, 18 mm. Complete in morocco case.
Each, Net \$8.00
- 16588. Spectroscope.** Same as No. 16586, with comparison prism.
Each, Net \$9.25
- 16590. Spectroscopic Cells.** Of glass; with parallel sides. For observing the absorption spectra of liquids.
Each, Net \$1.80
- 16592. Spectroscopic Cells.** For volatile liquids.
Each, Net \$2.20
- Spherometers.** For measuring both convex and concave curves. Supplied with ground glass plate.
- 16594. Spherometers. Small size.** Scale divided to single mm.; disc graduated in 100 divisions; covers circle of 45 mm. diameter.
Each \$4.50
- 16596. Spherometers. Medium size.** Scale divided to $\frac{1}{2}$ mm.; disc graduated in 100 divisions; covers circle of 50 mm. diameter.
Each \$12.00
- 16598. Spherometers. Large size.** Scale divided to $\frac{1}{2}$ mm.; disc graduated in 500 divisions; covers circle of 90 mm. diameter.
Each, Net \$26.50
- 16600. Sponges.** For laboratory use. Per 450 grams (1 lb.) \$1.50
- 16602. Sponge Rubber.** For cleaning drawings; solid rubber back. Size 63 x 44 x 15 mm. Per piece \$0.45
- Spoons, Deflagration.** See DEFLAGRATION SPOONS.



16608



16594-16598



16604



16616



16612



16602



16614

16604. Spoons, Bone. Best quality.

Length, mm.	80	100	120	150	170
Each	.10	.12	.14	.20	.25

16606. Spoons, Bone. With spatula end.

Length, mm.	80	100	120	150	170
Each	.10	.12	.15	.20	.25

16608. Spoons, Glass. Heavy cut glass.

Size	Teaspoon	Dessertspoon	Tablespoon
Each	.30	.40	.65

16610. Spoons, Horn. Best quality.

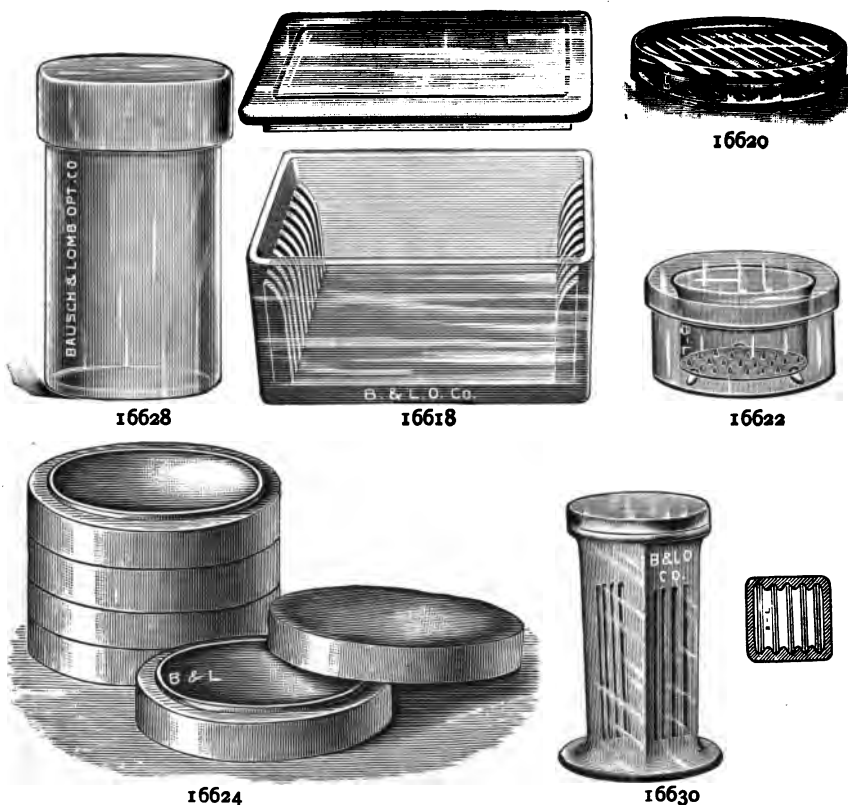
Length, mm.	80	100	120	150	180	200	220	240	280	300
Each	.06	.08	.10	.13	.20	.25	.28	.30	.45	.60

16612. Spoons, Horn. With spatula end.

Length, mm.	80	100	120	150	180	200	220	240	280	300
Each	.06	.10	.12	.16	.25	.28	.32	.40	.60	.75

16614. Spoons, Pure Nickel. With spatula end.

Length, mm.	120	150	180	210
Each	.45	.60	.75	1.00



16616. Spoons, Porcelain. With spatula end. (See illustration, page 351.)							
Length mm.	105	120	145	160	200	220	280
Each	.15	.18	.20	.25	.38	.45	.80

16618. Staining Dish. Of heavy, clear white glass with cover. Requires very little fluid and the slides are easily introduced and removed. Inside dimensions are 75 x 58 mm., yet 20 slides can be treated at one time.

Each \$0.25

16620. Staining Dish, Moore's. For holding cover glasses or slides during hydration, staining, dehydration, etc., of preparations. It consists of a double dish 110 mm. in diameter and 30 mm. deep, inside of which a glass disc is placed, the disc having nine parallel ridges separated by spaces 6 mm. wide. A reservoir of the above size will hold, without crowding, thirty 18-mm. covers, or six slides 25 x 75 mm. This dish is not only very convenient, but is economical in the amount of reagent required, the heavy glass disc taking up the space in the dish not needed for the glasses. It is desirable to have a dish for each stain or reagent used.

Each \$0.75

16622. Staining Dish, Steinach's. This dish consists of an inner glass vessel supported on glass feet and with the bottom perforated, contained in a heavy outer dish with cover ground on air-tight. The sections are placed in the sieve dish and may be lifted out permitting the changing of reagents without folding, tearing or losing the sections. Diameter of outer dish, 65 mm.

Each \$1.25



16624. Staining Dishes, Porcelain. In nests of five dishes, with cover.

Diameter (outside), mm.	64	72	84	100
Per Nest	.60	.70	.80	1.00

16626. Staining Dishes, Porcelain. Same style as No. 16624, but deeper; in nests of three dishes, with cover.

Diameter (outside), mm.	72	84	100
Per Nest	.70	.90	1.10

Staining Dishes. See also WATCH GLASSES.

16628. Staining Jar. Of heavy, clear white glass, with loose cover; bottom polished perfectly plane. Size, 85 x 35 x 15 mm. **Each \$0.25**

16630. Staining Jar, Coplin's. Of heavy, clear white glass, with ground-on cover. For convenient manipulation of sections attached to slides. Very economical of reagents. Capacity, ten 25 x 75 mm. slides. **Each \$0.50**

16632. Staining Jar, Naples. Used in Marine Biological Laboratories at Naples and Woods Hole, Mass. A straight glass tube with heavy glass base to prevent overturning, and hemispherical cover. The covers are interchangeable. An extremely practical jar for staining, fixing, and clearing on the slide, as the height and width are just sufficient to include a standard size slide, there being the least possible space to be filled by reagents. Height without cover, 90 mm.; diameter, 35 mm. **Each \$0.20**

16634. Staining Jar, Naples. Same as No. 16632, but with cork stopper instead of glass cover. **Each \$0.15**

16636. Stamps, Rubber. Any style or size made to order.

Stamps, Steel. See FIGURES AND LETTERS.

Stands. See SUPPORTS.

Sterilizers and Incubators. See BACTERIOLOGICAL CATALOGUE.

16638. Stills. For water or spirits. A tin-lined, copper retort and zinc cooler, with tin worm, receiving funnel for cold water and outlet for hot water.

Capacity, liters	2	4	8	12	20
Each	8.50	10.50	13.00	17.00	23.00

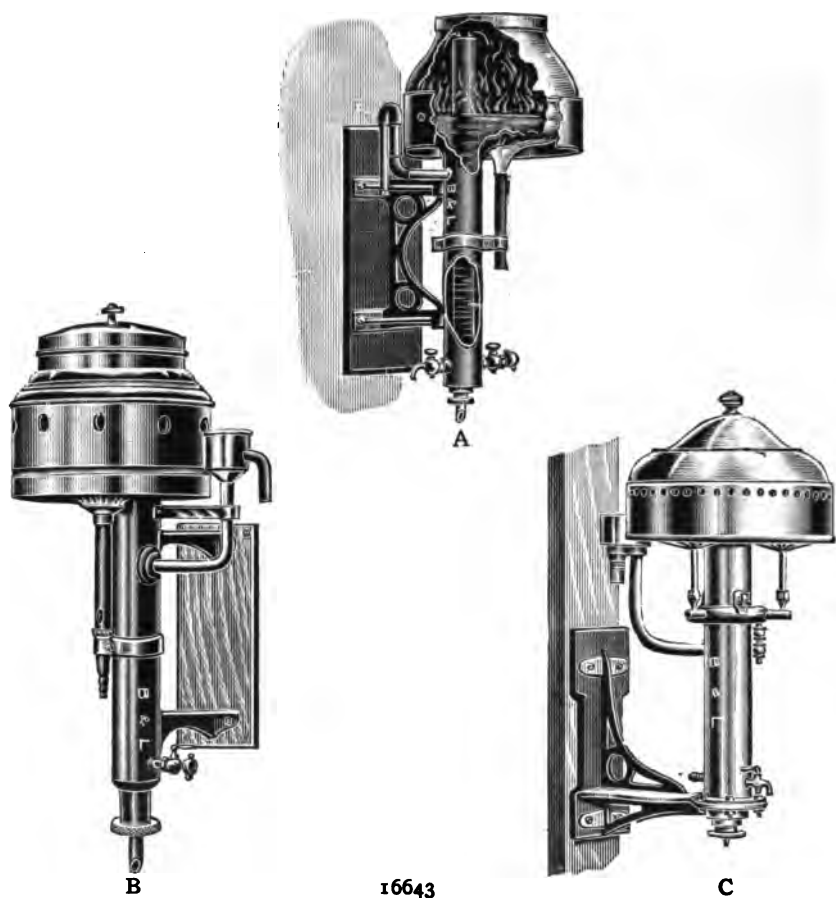


16640

- 16640. Still, Automatic Water.** Designed for use in chemical laboratories and wherever pure water is desired. To operate the still, it is placed on a tripod over a Bunsen burner or other suitable source of heat. The water inlet in the top pan is connected by rubber tubing to the water supply and water allowed to run in continuously in a small stream. When the water reaches the level of the holes in the overflow pipe it runs into the funnel shown at side and then into the lower pan until this is filled to the level of the small waste pipe shown at the tee, as the water boils away from the lower pan it is automatically replenished, so that the level is kept at the same point and no attention is required. The still is 330 mm. high, and 280 mm. diameter. It is made of heavy copper spun into shape with no soldered seams, and is finished in highly polished nickel. Over a burner using $\frac{1}{4}$ cu. m. (10 cu. ft.) of gas an hour it will deliver 3 liters per hour. **Each, Net \$13.50**

- 16642. Stills, Domestic Water.** Made of cold rolled copper, lined throughout with block tin. The top of the retort is removable to facilitate cleaning. The still works automatically and yields more distilled water for the amount of gas burned than any other still on the market. (See illustration, page 356.)

Size	Small	Large
Capacity, per hr., liters	2	4
Each, Net	15.00	25.00



16643. Stills, Jewell. These stills are highly recommended for their simplicity and durability. They are built very substantially and all parts are accessible. They are all arranged to be used with gas.

A Small size, of iron. Capacity, 2000 cc. per hour. **Net \$9.00**

B Medium size, nickel plated. Capacity, 4000 cc. per hour.

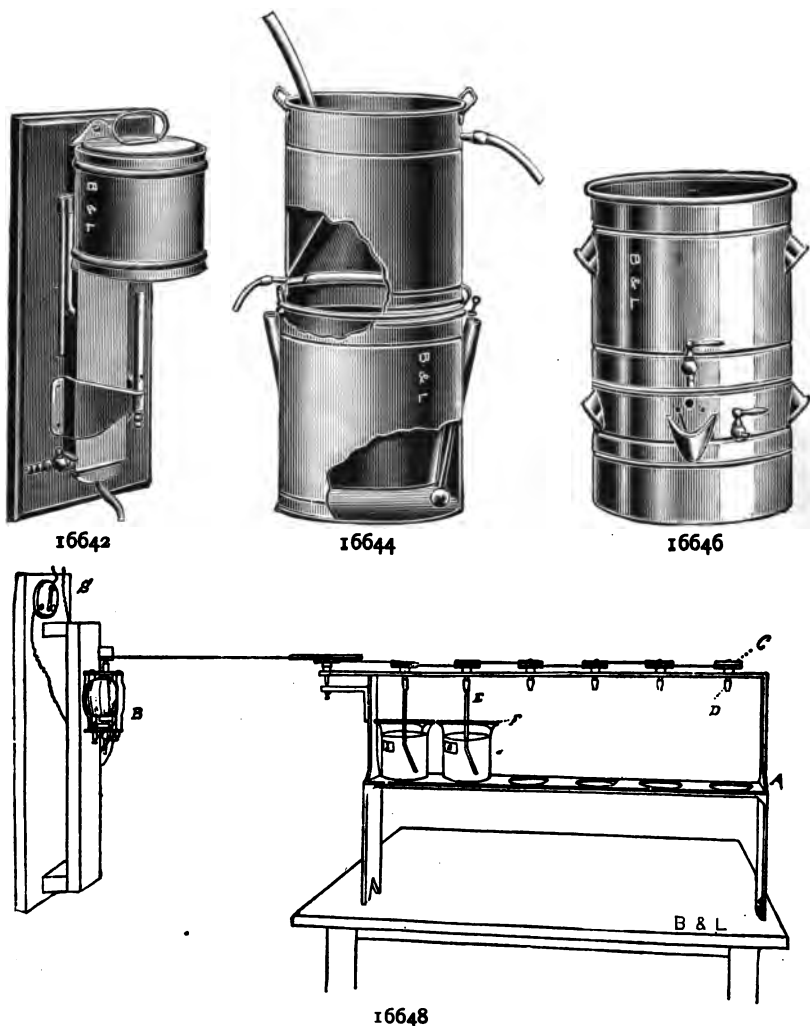
Net \$24.00

C Large size, nickel plated retort. Capacity, 6000 cc. per hour.

Net \$45.00

16644. Still, Jones' Excelsior, with Condensor. This is an improved apparatus for recovering alcohol, distilling water, manufacturing fluid extracts, etc. It is made of polished copper and is capable of distilling from 1000 to 1500 cc. of water or fluid extract per hour. Has indicator to mark when water in the boiler is low, and is provided with opening for thermometer. May be used on any kind of stove. Total height, 440 mm.; diameter, 180 mm. Capacity of inner kettle for fluid extracts, 4 liters. (See illustration, page 354.)

Each, Net \$5.00

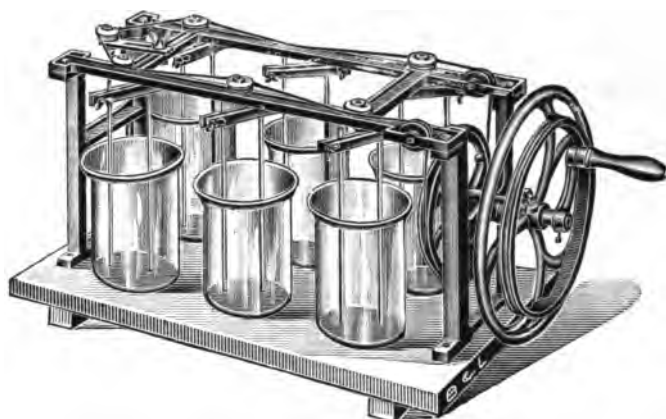


- 16646. Still, Ralston.** Made of the best quality cold-rolled copper and lined with pure block tin which will not corrode nor rust. The still cannot boil dry and can be operated on a stove or over a gas or oil flame. Capacity, 1 liter per hour. Height, 350 mm.; diameter, 225 mm. **Net \$10.00**

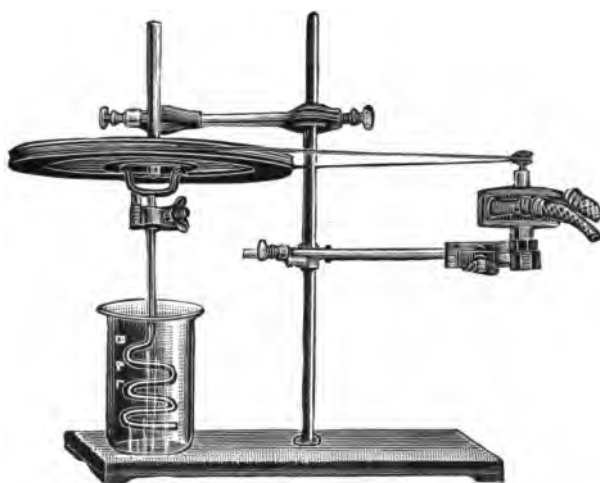
Stills. Other makes to order.

Stirrers. See GLASS RODS.

- 16648. Stirring Apparatus.** For use in iron analysis as described in "Blair's Analysis," 3rd edition, page 149. Price without motor. **Each \$20.00**
- 16650. Stirring Apparatus.** Arranged to stir simultaneously the contents of six beakers by either hand or motor power (see motors). **Each \$28.00**
- 16652. Stirring Apparatus, Rabe's.** For use with Rabe's motor (see motors). Price without motor. **Each \$7.00**



16650



16652, 16654

16654. Stirring Apparatus, Rabe's. Complete with Rabe's motor.

Each \$12.00

Stop Cocks, Brass, for Gas Bags. See GAS BAGS.

16656. Stop Cock, Brass. One end with male screw, the other with female screw. (See page 358.)

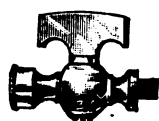
Bore, mm.	3	6
Each	.80	1.00

16658. Stop Cock, Brass. Both ends with female screw. (See page 358.)

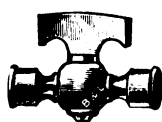
Bore, mm.	3	6
Each	.80	1.00

16660. Stop Cocks, Brass. Both ends with male screw. (See page 358.)

Bore, mm.	3	6
Each	.80	1.00



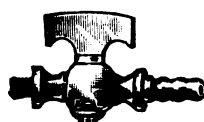
16656



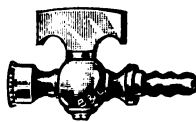
16658



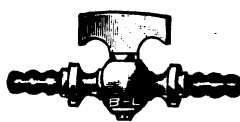
16660



16662



16664



16666



16668



16670



16672



16674

16662. Stop Cocks, Brass. One end for tubing, the other with male screw.

Bore, mm.	3	6
Each	.80	1.00

16664. Stop Cocks, Brass. One end for tubing, the other with female screw.

Bore, mm.	3	6
Each	.80	1.00

16666. Stop Cocks, Brass. Air and gas-tight; both ends for tubing.

Bore, mm.	3	6
Each	.80	1.00

16668. Stop Cocks, Glass. Heavy; straight.

Bore, mm.	4	6	8
Each	1.00	1.25	1.50

16670. Stop Cocks, Glass. Curved.

Bore, mm.	4	6	8
Each	1.00	1.25	1.50

16672. Stop Cocks, Glass, Geissler's. Straight.

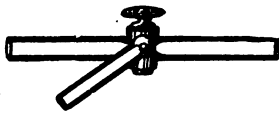
Bore, mm.	1	2	3	4	5	6	8	10
Each	.75	.90	1.15	1.35	1.60	1.80	3.00	4.50

16674. Stop Cocks, Glass, Geissler's. Curved.

Bore, mm.	1	2	3	4	5	6	8	10
Each	.75	.90	1.15	1.35	1.60	1.80	3.00	4.50

16676. Stop Cocks, Glass, Geissler's. Three-way.

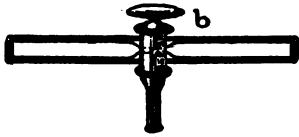
Bore, mm.	2	4
Each	1.00	1.50



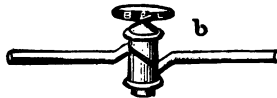
16676



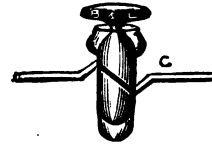
16678



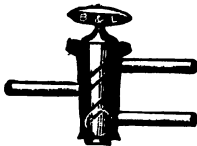
16680



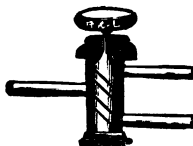
16682



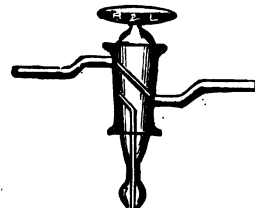
16684



16686



16688



16690

16678. Stop Cocks, Glass, Geissler's. Four-way.

Bore, mm.	2	4
Each	1.10	1.65

16680. Stop Cocks, Glass, Geissler's. Three-way; new style.

Bore, mm.	2	4
Each	1.40	2.00

16682. Stop Cocks, Glass, Geissler's Latest Form. With plug bored at an angle. These stop cocks are absolutely air-tight and will not leak.

Bore, mm.	2	4
Each	1.20	2.00

16684. Stop Cocks, Glass, Geissler's Latest Form. With mercury seal.

Bore, mm.	2	4
Each	2.35	3.00

16686. Stop Cocks, Glass. Three-way; horizontal.

Bore, mm.	2	4
Each	1.50	2.40

16688. Stop Cocks, Glass. Three-way; with mercury seal.

Bore, mm.	2	4
Each	3.25	4.00

16690. Stop Cocks, Glass. Three-way; downward.

Bore, mm.	2	4
Each	1.50	2.40



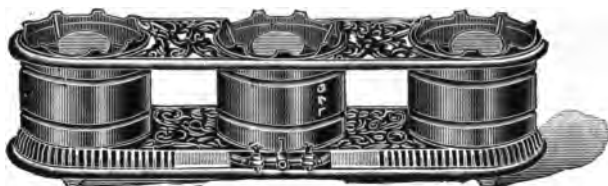
16692



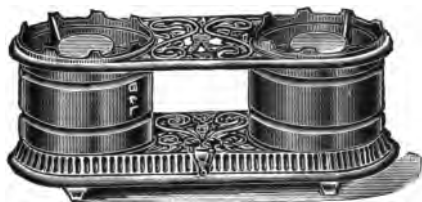
16694



16696



16700



16698



16702

- 16692. Stove, Alcohol.** Made of highly polished brass. This is an excellent stove, so arranged that gas is generated by vaporizing the alcohol. The consumption of alcohol is very moderate considering the intense heat obtained. The stove will boil a liter of water in nine minutes and will burn for more than one hour with one filling. Adapted for sterilizing, etc. Especially desirable where gas cannot be obtained. **Each, Net \$1.00**

Stove, Alcohol Burners. See BLAST LAMPS, BURNERS, LAMPS.

- 16694. Stoves, Electric, Portable.** These stoves operate equally well on alternating or direct current. Mounted on enamelled slate and provided with 120 cm. of special flexible cord. The 115-mm. stove is designed to connect to an ordinary lamp socket, making it quickly available anywhere. It is important for best results that the vessels used have perfectly flat bottom. The 115-mm. size is supplied with cord and plug; other sizes with cord only.

Diameter, mm.	115	150	200
Watts	200	440	820
Each, Net	4.00	6.00	10.00

- 16696. Stoves, Gas, High Form.** Consist of a heavy sheet iron cylinder, with top, base, and burner of cast iron, and brass feed pipes.

Height, mm.	160	175	180
Diameter, mm.	140	165	205
Each	.75	1.00	1.25

- 16698. Stove, Gas.** Two No. 16696 stoves combined. Length, 500 mm.; height, 190 mm. **Each \$3.25**



16704



16708



16706



16710



16712

16700. Stove, Gas. Three No. 16696 stoves combined. Length, 760 mm.; height, 190 mm. **Each \$5.50**

16702. Stoves, Gas. Low Form. Made of cast iron, neatly finished; fitted with double burner.

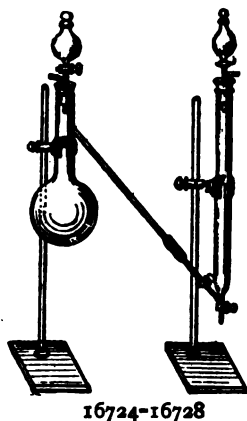
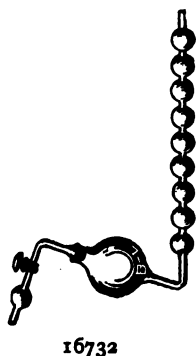
Height, mm.	110	110	110
Diameter, mm.	160	185	210
Each	1.00	1.15	1.25

16704. Stove, Gas. Two No. 16702 stoves combined. Length, 525 mm.; height, 110 mm. **Each \$4.25**

16706. Stove, Gas. Three No. 16702 stoves combined. Length, 810 mm.; height, 110 mm. **Each \$7.00**

16708. Stoves, Kerosene. Improved Summer Queen. With reservoir of steel, re-tinned and aluminum coated.

Number of burners	1	1	2	2	3
Width of burners, mm.	38	75	75	100	100
Each	.90	1.25	1.85	2.75	3.25



16710. Stove, Vaporized Oil. With reservoir and support. The burner is operated under air pressure, which is supplied by a pump shown in illustration. Very desirable where gas cannot be obtained, as it gives an intense heat and burns ordinary kerosene oil. Directions for operating are included. (See page 361.) **Each \$5.00**

16712. Stove, Vaporized Oil. Same as No. 16710 but without standard. (See page 361.) **Each \$4.25**

16714. Straw Rings, Plaited. For use as supports for flasks, dishes, beakers, etc.

Diameter (inside), mm.	50	75	100	125	150	200	250	300
Each	.15	.18	.20	.25	.30	.40	.50	.65

Straw Rings. See also SUBERITE RINGS.

Strainers. See Colanders and Funnels.

Streak Plates. See PLATES.

16716. Suberite Plates or Blocks. To be used as rests or covers for beakers. Diameter, 120 mm.

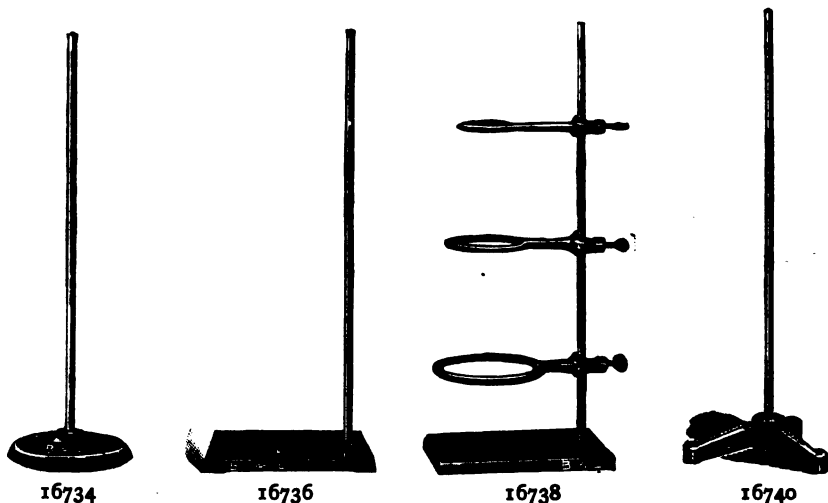
Thickness, mm.	10	20	40
Each	.22	.30	.45

16718. Suberite Rings. For supporting flasks, dishes, etc. These are superior to straw rings commonly used for this purpose, being neater and more durable.

Diameter (inside), mm.	30	60	90	120	150	180
Each	.20	.28	.38	.45	.60	.65

16720. Sulphur Apparatus, Dudley's. For the determination of sulphur by bromine. Complete with stand. **Each, Net \$9.00**

16722. Sulphur Apparatus, Dudley's. Glass parts only. **Each, Net \$6.75**

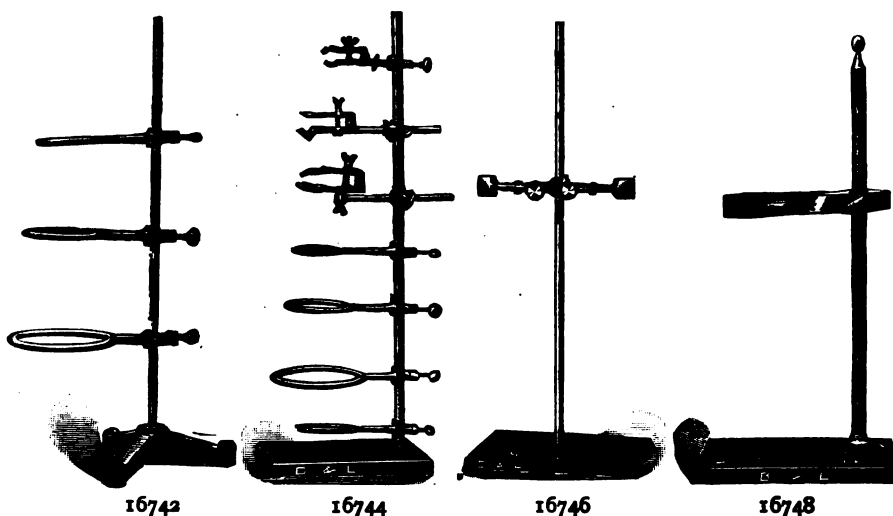


16724. Sulphur Apparatus, Ledebur's. To determine sulphur by bromine. Complete with supports. Each, Net \$10.25
16726. Sulphur Apparatus, Ledebur's. Glass parts only. Each \$5.75
16728. Sulphur Apparatus, Ledebur's. Tube filled with glass beads. Each \$4.50
16730. Sulphur Apparatus, Meyer's. For the determination of carbon in iron and steel by the use of barium hydrate, and the determination of sulphur by the aid of bromine. Without stop cock.
- | | | |
|-----------------|------|------|
| Number of bulbs | 6 | 10 |
| Each | 1.20 | 1.25 |
16732. Sulphur Apparatus, Meyer's. With stop cock.
- | | | |
|-----------------|------|------|
| Number of bulbs | 6 | 10 |
| Each | 2.10 | 2.25 |
16733. Sulphur Apparatus, Wiborgh's. For the exact colorimetric determination of sulphur in iron.
- | | | |
|---|-------------|--------|
| A Glass parts with ring and clamp. | Each | \$6.75 |
| B Normal color scale with percentage table. | Each | \$8.00 |
| C Prepared linens, ready for use. | Per hundred | \$4.00 |

SUPPORTS

Our supports are of the latest pattern, well made and neatly finished. Both those of iron and those of wood have screw threads of ample size, well cut and fitted. Being manufacturers of these supports, both in iron and in wood, we are in a position to offer them at exceptionally low prices.

16734. Supports, Apparatus. Circular base; copper plated rod 500 mm. long. Each \$0.50
16736. Supports, Apparatus. Rectangular base; copper plated rod.
- | | | | | |
|--------------------|-----------|-----------|-----------|-------------|
| | Small | Medium | Large | Extra large |
| Size of base, mm. | 100 x 150 | 125 x 200 | 130 x 225 | 150 x 275 |
| Length of rod, mm. | 450 | 500 | 650 | 900 |
| Each | .30 | .40 | .65 | 1.00 |



16738. Support, Apparatus. Rectangular base, same as No. 16736, with rings. (See illustration, page 363.)

Size	Small	Medium	Large	Extra large
Number of rings	2	3	4	4
Each	.45	.65	1.00	1.25

16740. Supports, Apparatus. Tripod base; copper-plated rod. (See page 363.)

Size	Small	Medium	Large	Extra large
Length of rod, mm.	450	500	650	900
Each	.35	.50	.75	1.00

16742. Supports, Apparatus. Tripod base, same as No. 16740, with rings.

Size	Small	Medium	Large	Extra large
Number of rings	2	3	4	4
Each	.45	.65	1.00	1.25

16744. Support, Bunsen's Universal Apparatus. Consists of Apparatus Support, No. 16736 large size, with: 2 clamp holders, No. 13348; 1 clamp holder, No. 13350; 3 rings, No. 16396; 1 burner fork, No. 13140; 1 clamp, No. 13300; 1 clamp, No. 13286; 1 clamp, No. 13292. Complete.

Each \$6.00

16746. Support, Burette. Metal clamp, rubber lined, on iron stand. For two burettes.

Each \$1.25

16748. Support, Burette. Of wood; clamp cork lined. For one burette.

Each \$0.95

16750. Support, Burette. With extra arm to keep burette steady.

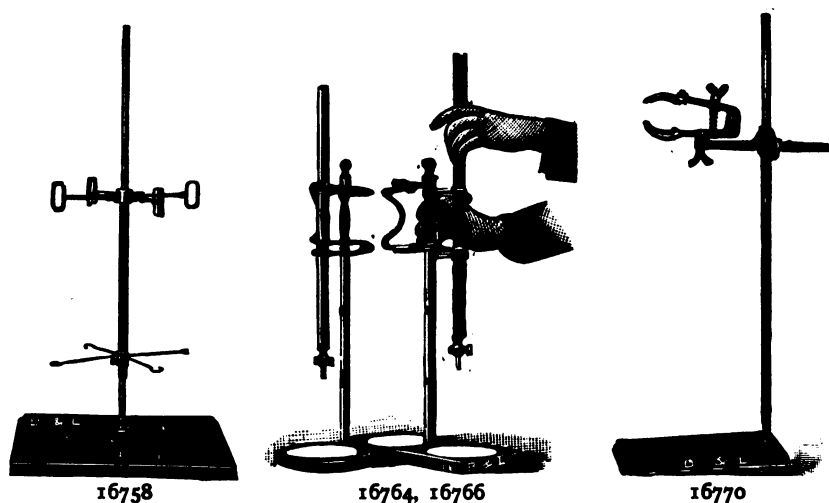
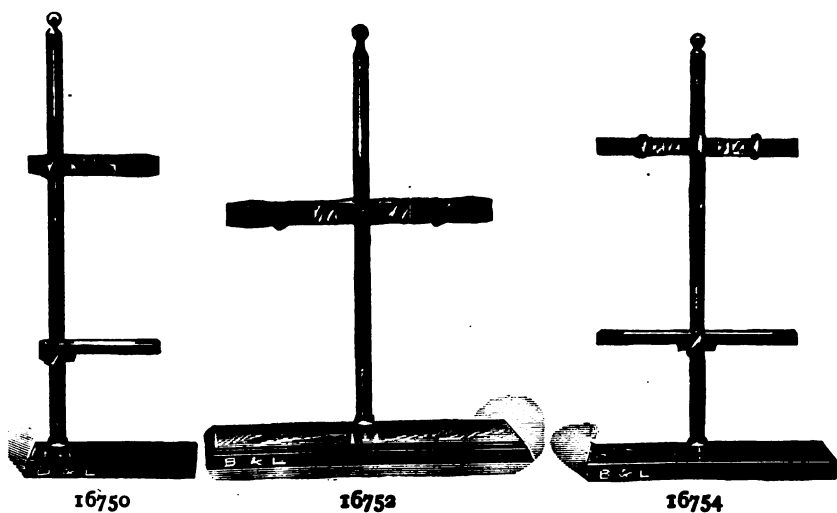
Each \$1.25

16752. Support, Burette. Of wood; clamp cork lined. For two burettes.

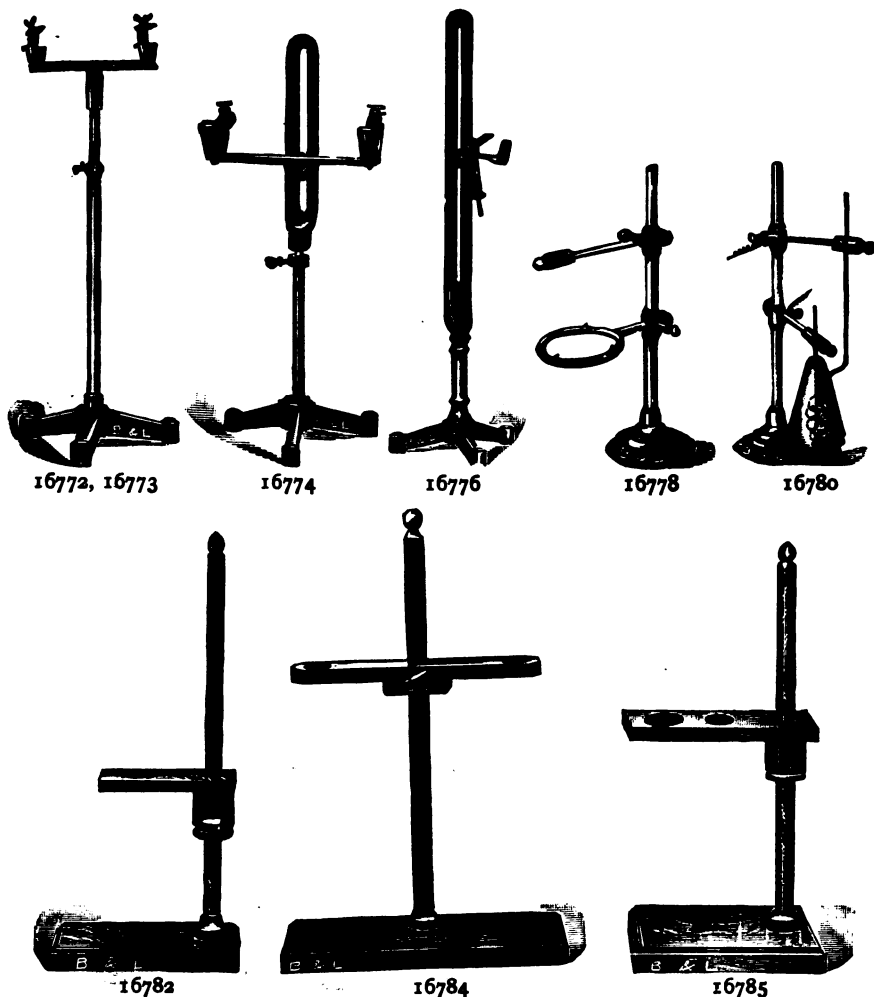
Each \$1.25

16754. Support, Burette. With double arm to keep burettes steady.

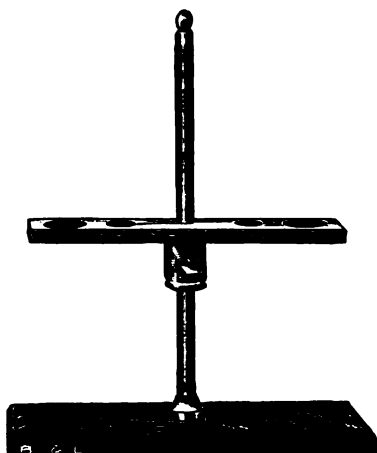
Each \$1.50



16756. Support, Burette. Wooden clamp on iron stand. For two burettes. Each \$1.25
16758. Support, Burette. Revolving stand, with square wooden base. For four burettes. Each \$5.00
16760. Support, Burette. With circular porcelain base. For four burettes. Each \$6.00
16762. Support, Burette. With square wooden base. For eight burettes. Each \$2.50
16764. Support, Burette, Chaddock's. With circular milk-glass plate, set in wooden base. For one burette. Each, Net \$1.50
16766. Support, Burette, Chaddock's. For two burettes. Each, Net \$2.50
16768. Support, Burette, Hofmann's. Wooden base, with steel rod. For two burettes. Each \$1.50



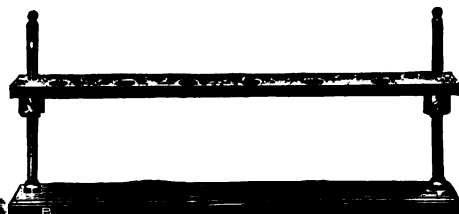
- 16770. Support, Condenser.** An iron stand, with Bunsen's Universal Clamp.
(See illustration, page 365.) **Each \$3.00**
- 16772. Support, Condenser.** Of iron, with double Bunsen clamp; adjustable for height. **Each \$3.50**
- 16773. Support, Condenser.** Same style as No. 16772. Of brass. **Each \$6.00**
- 16774. Support, Condenser, Bunsen's.** Of metal, with universal movement. A very rigid support, adaptable to any size condenser. **Each \$3.50**
- 16776. Support, Condenser, Hofmann's.** Made of metal.
- | Size | Small | Large |
|------|-------|-------|
| Each | 2.50 | 3.50 |
- 16778. Support, Electrolytical.** With ring and clamp. **Each \$4.75**
- 16780. Support, Electrolytical.** With two clamps. **Each \$4.75**



16786



16788



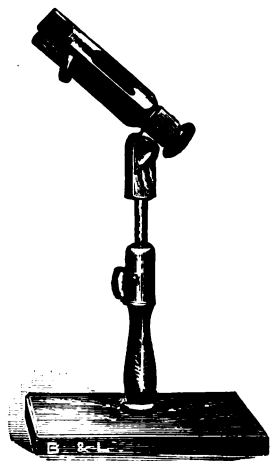
16790



16792



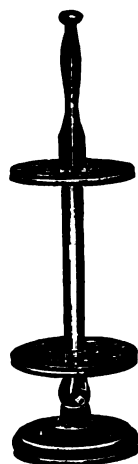
16793



16794

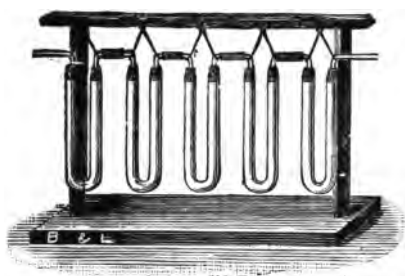


16800

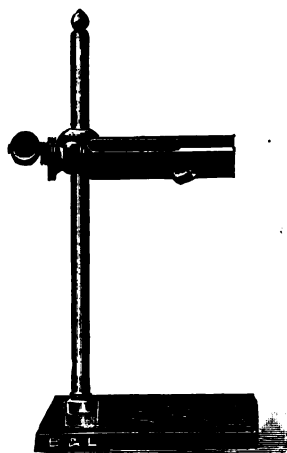


16798

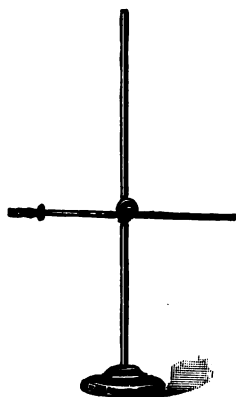
Supports Funnel.		Of wood; adjustable for height.	
16782.	Supports, Funnel.	For one funnel. (See page 366.)	Each \$0.50
16784.	Supports, Funnel.	For two funnels. (See page 366.)	Each \$0.65
16785.	Supports, Funnel.	For two funnels. (See page 366.)	Each \$0.65
16786.	Supports, Funnel.	For four funnels.	Each \$0.75
16788.	Supports, Funnel.	For six funnels.	Each \$2.50
16790.	Supports, Funnel.	For twelve funnels.	Each \$4.50



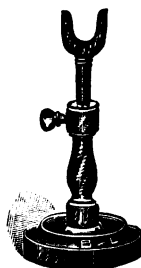
16802



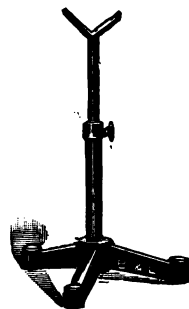
16804



16806



16808



16810

16792. **Supports, Funnel.** Of wood; triangular; for placing on beakers.

Diameter, mm.	50	100	150	200
Each	.15	.20	.25	.30

16793. **Support, Funnel.** For four funnels. Consists of a wooden arm with metal clamp attached to apparatus support No. 16736, medium. (See page 367.)

Each \$0.75

16794. **Support, Gay-Lussac's.** Of wood. (See page 367.)

Each \$1.50

16796. **Support, Nessler Tube.** The base is covered by a milk-glass plate upon which the tubes rest.

Each \$1.50

16798. **Support, Pipette.** Revolving; arranged to hold a number of pipettes. Prevents breakage and drains pipettes properly. (See page 367.)

Each \$2.50

16800. **Support.** For potash bulbs, U-tubes, etc. Of wood; adjustable for height. (See page 367.)

Each \$1.50

16802. **Support.** For potash bulbs, U-tubes, etc. Of wood.

Each \$1.80

16804. **Support, Schellbach's.** Of wood.

Each \$2.00

16806. **Support.** For thermometers, platinum wire, test tubes, etc., for spectroscopic work. Of brass, nickel plated, with universal joints.

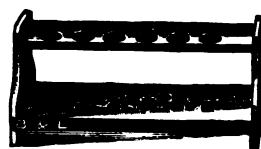
Each \$1.60



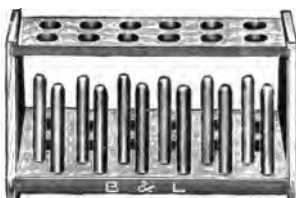
16812



16818



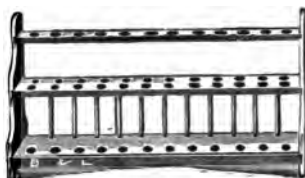
16820



16823



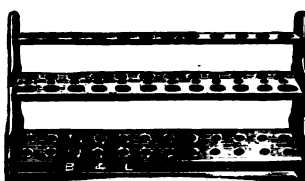
16824



16830



16836



16832

16808. Supports. For tubes. Made of wood; adjustable for height.

Height, mm.	230	300	380	500	630
Each	.75	.85	.90	1.00	1.20

16810. Supports. For tubes; made of iron, with brass fork; adjustable for height.

Height, mm.	230	300	380	500	630
Each	.95	1.10	1.15	1.25	1.50

Support, Test Tube. Made of wood.

16812. Support, Test Tube. For six tubes in one row. Each \$0.20

16814. Support, Test Tube. For six tubes in one row, with pins. Each \$0.25

16816. Support, Test Tube. For twelve tubes in one row. Each \$0.30

16818. Support, Test Tube. For twelve tubes in one row, with pins. Each \$0.40

16820. Support, Test Tube. For twelve tubes in two rows. Each \$0.25

16822. Support, Test Tube. For twelve tubes in two rows, with pins. Each \$0.35

16823. Support, Test Tube. Best walnut. Each \$1.00

16824. Support, Test Tube. For twelve tubes in two rows, one above the other. Each \$0.25

16826. Support, Test Tube. For twelve tubes in two rows, one above the other, with pins. Each \$0.35



16835

16840

16838

16828. **Support, Test Tube.** For twenty-four tubes in two rows, one above the other. Each \$0.40

16830. **Support, Test Tube.** For twenty-four tubes in two rows, one above the other, with pins. (See illustration, page 369.) Each \$0.50

16832. **Supports, Test Tube.** German style; made of wood.

Number of tubes	24	36	40
Each	.55	.65	.75

16834. **Support, Test Tube.** With pins.

Number of tubes	24	36	40
Each	.70	.80	.90

Supports, Test Tube. Of nickeled wire; very light, clean, and convenient. May be used also for drying.

16835. **Support, Test Tube.** Wire form. Each \$0.40

16836. **Support, Test Tube.** Circular; for forty tubes. Each \$0.50

16838. **Support, Test Tube.** Square; for forty tubes. Each \$0.50

16840. **Supports, Test Tube.** Of copper. For use in water baths, etc.

Diameter, mm.	120	160	200
Each	.60	.80	1.20

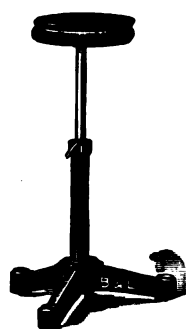
Support, Test Tube. Any other style made to order.

16842. **Support.** For color comparing tubes. Of heavy wood.

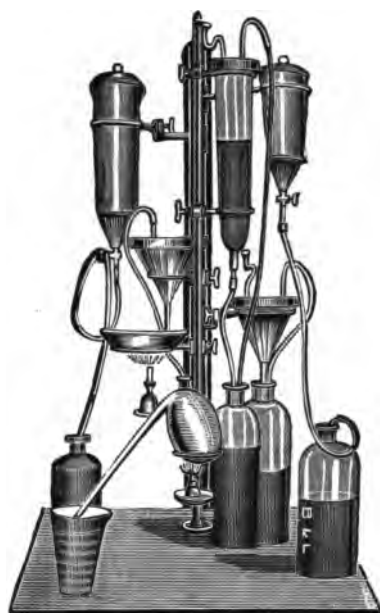
Number of tubes	10	20
Each	1.00	1.75

16844. **Support or Standard, Curtiss' Patent.** For general laboratory work.

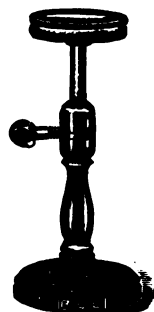
Made of metal, neatly finished. This support is of large size and heavy construction, specially adapted for private laboratories and where a considerable amount of work is to be done at one time. The standard is 120 cm. high, with seven rings, varying in size from 95 to 150 mm. diameter, and three swinging brackets on the rigid back frame which are adjustable for height and to which the rings can be attached. Accompanying the apparatus are three nickel-plated pans, two 95 mm. diameter and one 125 mm. diameter. These can be fitted into the rings and serve as supports for sand baths, evaporating dishes, burners, etc. The clamps which hold the rings are made with wedge-fitting keys which not only draw them up to perfect horizontal position, but render them very solid



16848



16844



16850

and secure. The form of the apparatus, together with the method of clamping as above described, makes it possible to use heavy pieces of apparatus even at extreme top of support. Each \$10.00

16846. **Support Adapter for Curtiss' Standard, No. 16844.** We are prepared to supply an adapter with clamp to fit Curtiss' Support, whereby any of our standard clamps can be used. With these attachments and a good supply of clamps the standard can be used for any purpose. Each \$0.50

16848. **Support Tables.** Iron, with wood top; adjustable.

Height, mm.	230	300	380	500	750
Each	1.25	1.50	1.75	2.00	2.25

16850. **Support Tables.** Wood, with heavy, lead-filled base; adjustable.

Height, mm.	230	300	380	500	750
Each	1.25	1.50	1.75	2.00	2.25

16852. **Swimming Cups.** Designed by Dr. Emil Amberg, for washing specimens. Made of porcelain, with perforations. The cork stopper floats the cup in the washing fluid. (See illustration, page 372.)

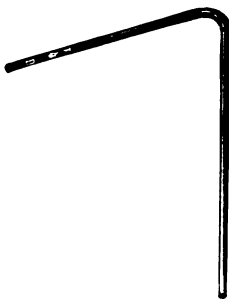
Height, mm.	35	50
Diameter, mm.	25	35
Each	.50	.65

16854. **Syphons.** Glass; plain form.

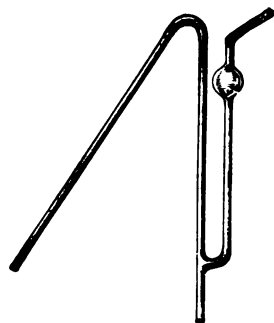
Length, mm.	200	300	375	500	750	1000
Each	.15	.20	.25	.30	.45	.70



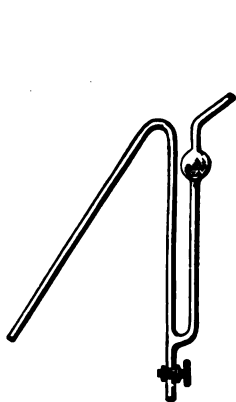
16852



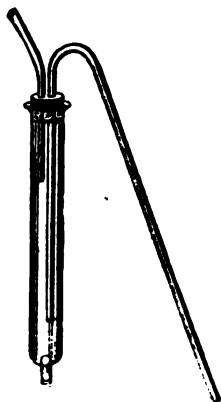
16854



16856



16858



16862



16864

16856 Syphons. Glass; with suction tube.

Length, mm.	200	300	375	500	750	1000
Each	.25	.30	.35	.40	.60	1.00

16858. Syphons. Glass; with suction tube and glass stop cock.

Length, mm.	200	300	375	500	750	1000
Each	1.00	1.25	1.50	1.75	2.00	2.50

16860. Syphon. So-called "Thief-Glass." For taking samples from barrels.
Length, 750 mm. **Each \$1.20**

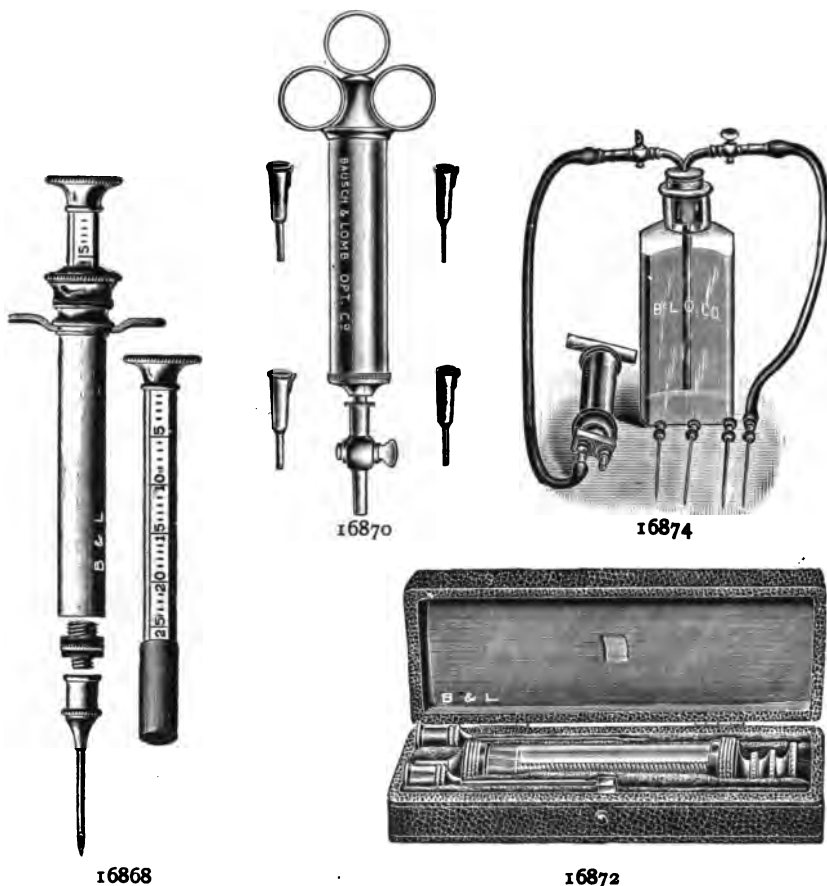
16862. Syphon, Sedlaczek's. With valve; operated by blowing. **Each \$1.40**

16864. Syringe, Hypodermic. Glass barrel with metal shield; capacity, 2.5 cc.; graduated plunger; finger rest attachment; two needles, cleaners, and vial. Complete, in case. **Each \$1.25**

16866. Extra needles for No. 16864. **Each \$0.10**

16868. Syringe, Hypodermic. Made entirely of metal; can therefore be quickly and thoroughly sterilized; graduated plunger; in metal case, hinged lid; with two needles and four vials for holding tablets. **Each \$1.65**

16870. Syringe, Injecting. Of metal, nickel plated, with detachable stop cock and four canulas with ligature catch; capacity, 20 cc. Complete, in case. **Each \$8.00**



16872. Syringe, Injecting. Glass barrel in metal frame; capacity, 3 drachms; plunger graduated to $\frac{1}{4}$ drachm; finger rest attachment; two-way stop cock; three needles of different sizes, and a trocar. Complete, with cleaners, in leather case. **Each \$4.50**

16874. Syringe, Injecting. This syringe is designed for injecting fluids and hardening and fixing reagent into vessels and tissues requiring larger quantities than the ordinary hypodermic syringe will contain. The pump barrel, nicked inside and outside, is fitted with a double-packed plunger. The nozzle has automatic two-way cock. Stop cocks in the stopper attachment give complete control of the fluid. As the injecting fluid is driven into the vessels by air forced into the bottle by the pump, corrosive fluids may be used without injuring the pump. A metal clamp holds the stopper in place when the pressure is applied. Complete, with 250-cc. glass bottle, rubber tubing, three needles, a trocar, and four canulas, each 100 mm. long and 1.0, 1.8, 2.1, and 2.4 mm. diameter, respectively. **Each \$12.00**

16876. Extra needles for No. 16874.

Per set of three \$3.00



16886



16878



16898, 16906



16888, 16896



16882



16905

16878. **Syringe's, Koch's.** Glass barrel, brass stop cock, and rubber bulb. With two needles. In case.

Capacity, cc.	1	2	5
Each	1.75	2.00	2.25

16880. Extra needles for No. 16878. **Each \$0.15**

16882. **Syringes, Pravaz'.** Glass barrel; graduated plunger. With two needles. In case.

Capacity, cc.	1	2	5
Each	.60	.75	1.00

16884. Extra needles for No. 16882. **Each \$0.15**

16886. **Test Glasses.** For collecting sediments. Conical form; of best resistance glass; with foot and pour out.

Capacity, cc.	50	100	200	300
Each	.15	.20	.30	.35

Test Glasses. See URINARY APPARATUS; SEDIMENTATION GLASSES.

TEST PAPERS

16887. **Test Papers.** Litmus. Book form. Red, Blue, Neutral, Congo and Tumeric. **Per book \$0.05**

16888. **Test Papers.** Litmus, Blue. Vial of 100 strips. **Each \$0.10**

16890. **Test Papers.** Litmus, Neutral. Vial of 100 strips. **Each \$0.10**

16892. **Test Papers.** Litmus, Red. Vial of 100 strips. **Each \$0.10**

16894. **Test Papers.** Congo. Vial of 100 strips. **Each \$0.10**

16896. **Test Papers.** Tumeric. Vial of 100 strips. **Each \$0.10**

16898. **Test Papers.** Litmus, Blue. Tape form of detachable pieces. **Each \$0.10**

16900. **Test Papers.** Litmus, Neutral. Tape form of detachable pieces.
Each \$0.10
16902. **Test Papers.** Litmus, Red. Tape form of detachable pieces.
Each \$0.10
16904. **Test Papers.** Congo. Tape form of detachable pieces. Each \$0.10
16905. **Test Papers.** Litmus, Red and Blue. Tape form of detachable pieces. Very convenient as both red and blue litmus is contained on same strip of paper making possible an acid and alkaline test simultaneously.
Each \$0.25
16906. **Test Papers.** Tumerac. Tape form of detachable pieces.
Each \$0.10
16908. **Test Papers.** Litmus, Blue. In sheets; size, 385 x 385 mm.
Per quire, Net \$0.75
16910. **Test Papers.** Litmus, Neutral. In sheets; size, 385 x 385 mm.
Per quire, Net \$0.75
16912. **Test Papers.** Litmus, Red. In sheets; size, 385 x 385 mm.
Per quire, Net \$0.75
16914. **Test Papers.** Congo. In sheets; size, 385 x 385 mm.
Per quire, Net \$0.75
16916. **Test Papers.** Tumerac. In sheets; size, 385 x 385 mm.
Per quire, Net \$0.75

TEST TUBES

16918. **Test Tubes.** With lip. Very best, selected quality; of Baloc glass, free from bubbles and stripes; even thickness; well annealed.
Each tube wrapped in paper.

Length, mm.	120	120	150	150
Diameter, mm.	15	18	16	18
Per hundred	2.00	2.50	2.50	2.75

16920. **Test Tubes.** With lip; thin walled; of Baloc glass; well annealed; free from lead. Each tube wrapped in paper.

Length, mm.	75	100	120	120	120	150	150
Diameter, mm.	11	12	13	15	18	16	18
Per hundred	1.00	1.10	1.20	1.35	1.65	1.70	2.00
Length, mm.	150	150	180	200	200	225	250
Diameter, mm.	20	25	18	20	25	25	28
Per hundred	2.15	2.35	2.70	3.40	4.00	4.75	5.40

16922. **Test Tubes.** Without lip; heavy walled; round bottom. Same quality as No. 16920.

Length, mm.	100	100	120	120	120	150	150	150
Diameter, mm.	12	15	13	16	18	15	18	20
Per hundred	1.20	1.35	1.35	1.70	2.00	2.10	2.35	3.00

16924. **Test Tubes.** So-called Specimen Tubes. Without lip; heavy walled; flat bottom. Same quality as No. 16920.

Length, mm.	100	100	120	150
Diameter, mm.	12	15	13	15
Per hundred	1.20	1.35	1.40	2.00



16918



16922



16926



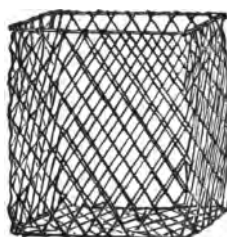
16928



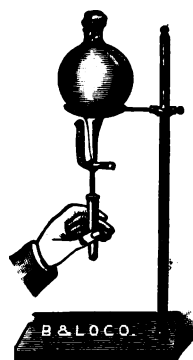
16930



16932



16934



16936

Test Tubes of Hard Bohemian Glass. See TUBES, IGNITION.

16926. Test Tubes. With side neck and lip. Same quality as No. 16920.

Length, mm.	120	150	180	200
Each	.05	.06	.07	.10

16928. Test Tubes. With foot and lip. Same quality as No. 16920.

Height, mm.	100	125	150	175	200	250
Each	.05	.06	.07	.08	.09	.10

16930. Test Tubes, Graduated. With lip.

Capacity, cc.	5	10	15	20	25	30
Graduated, cc.	1-10	1-10	1-5	1-5	1-2	1-2
Each	.30	.35	.40	.45	.40	.50

Test Tube Baskets. Of tinned wire; for use in incubators and sterilizers; very smooth, with few joints.

16932. Test Tube Baskets. Circular; height, 150 mm.; diameter, 125 mm.

Each \$0.40

16934. Test Tube Baskets. Rectangular; size, 150 x 125 x 100 mm.

Each \$0.40

Test Tube Brushes. See BRUSHES.

Test Tube Clamps. See CLAMPS.

Test Tube Cleaners. See BRUSHES.

- 16936. Test Tube Filling Attachment.** For measuring out exact quantities of fluid. Consists of a separatory funnel with two-way stop cock and graduated side tube. Prices do not include apparatus stand and ring.

Capacity, cc.	250	500	1000
Each	2.50	3.00	4.00

Test Tube Holders. See CLAMPS AND SUPPORTS.

Test Tube Racks. See SUPPORTS.

THERMOMETERS

We offer below a line of thermometers which are especially suited for scientific work. They are made under our own supervision and therefore we can guarantee them to be accurate and at least equal to other thermometers in the market. Our aim is to offer thermometers of the very best grade and of a range wide enough to accommodate all kinds of work.

- 16938. Thermometers, Chemical.** Paper scale; Centigrade graduations.

Graduated to	100°	150°	200°	250°	300°
Each	.50	.55	.60	.65	.70

- 16940. Thermometers, Chemical.** Paper scale; Fahrenheit graduations.

Graduated to	212°	300°	400°	600°
Each	.55	.60	.65	.75

- 16942. Thermometers, Chemical.** Paper scale; Centigrade and Fahrenheit graduations.

Graduated to, Cent.	100°	150°	200°	360°
Graduated to, Fahr.	212°	300°	400°	600°
Each	.80	.90	1.00	1.10

- 16944. Thermometers, Chemical.** Paper scale; Centigrade and Fahrenheit graduations. Short form.

Length, mm.	100	120
Graduated to, Cent.	-10° to +100°	100° to 220°
Graduated to, Fahr.	+14° to +212°	212° to 450°
Each	.60	.75

- 16946. Thermometers, Chemical.** Milk-glass scale; Centigrade graduations. Jena glass. Graduated in degrees.

Graduated to	100°	150°	200°	360°
Each	1.10	1.30	1.50	1.80

- 16948. Thermometers, Chemical.** Milk-glass scale; Fahrenheit graduations. Jena glass. Graduated in two-degree divisions.

Graduated to	212°	300°	400°	600°
Each	1.10	1.30	1.50	1.80

- 16950. Thermometers, Chemical.** Milk-glass scale; Centigrade and Fahrenheit graduations. Jena glass.

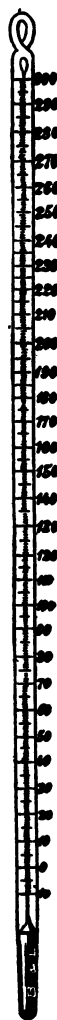
Graduated to, Cent.	100°	150°	200°	360°
Graduated to, Fahr.	212°	300°	400°	600°
Each	1.35	1.45	1.55	1.80



16938-16944



16946-16950



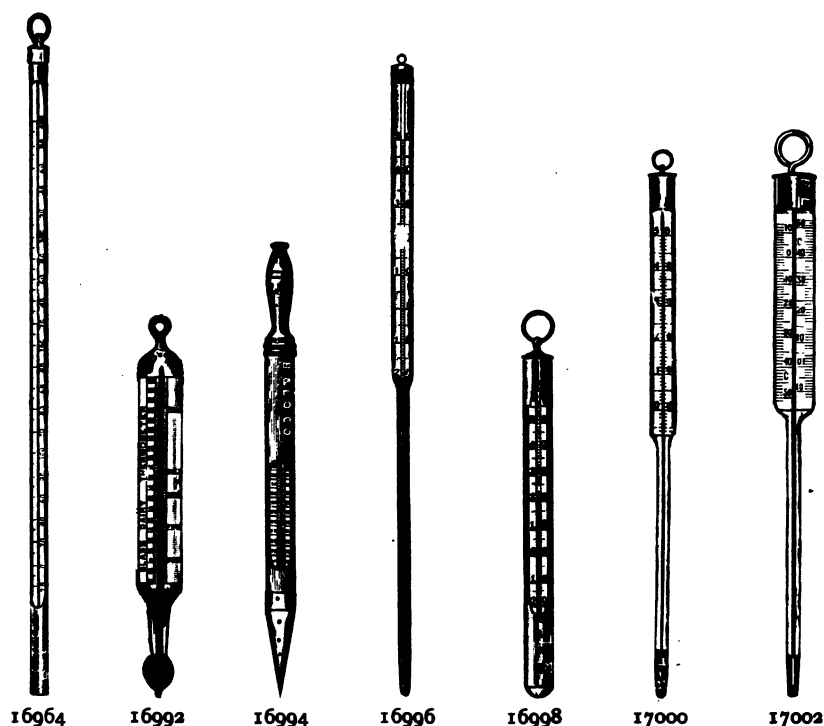
16952-16958

16952. Thermometers, Chemical. With Centigrade scale etched on stem, and white background. Graduated in degrees.

Length, mm.	300	300	350	400
Graduated to	100°	150°	200°	360°
Each	1.10	1.30	1.50	1.80

16954. Thermometers, Chemical. With Fahrenheit scale etched on stem, and white background. Graduated in two-degree divisions.

Length, mm.	300	300	350	400
Graduated to	212°	300°	400°	600°
Each	1.10	1.30	1.50	1.80



16956. Thermometers, Chemical. With Centigrade and Fahrenheit scale etched on stem, and white background.

Length, mm.	300	300	350	400
Graduated to, Cent.	100°	150°	200°	360°
Graduated to, Fahr.	212°	300°	400°	600°
Each	1.25	1.50	1.65	2.00

Thermometers, Chemical, Standard. For work of extreme precision. Thermometers Nos. 16958-60-62 represent the highest degree of perfection in thermometrical manufacture. They are calibrated and graduated with the greatest accuracy. A certificate showing errors, if any, to within $1/10^\circ$ accompanies each instrument.

16958. Thermometer, Chemical, Standard. With Centigrade scale etched on stem, and white background. Graduated in degrees.

Length, mm.	300	300	350	400
Graduated to	100°	150°	200°	360°
Each	1.50	1.75	2.00	2.50

16960. Thermometers, Chemical, Standard. With Fahrenheit scale etched on stem, and white background. Graduated in two degree divisions.

Length, mm.	300	300	350	400
Graduated to	212°	300°	400°	600°
Each	1.50	1.75	2.00	2.50

16962. Thermometers, Chemical, Standard. With Centigrade and Fahrenheit scales etched on stem, and white background.

Length, mm.	300	300	350	400
Graduated to, Cent.	100°	150°	200°	360°
Graduated to, Fahr.	212°	300°	400°	600°
Each	1.75	2.00	2.50	3.00

16964. Thermometer cases or armors, for Nos. 16952 to 16962, and No. 16970. Nickel plated. (See page 379.)

Length, mm.	300	350	400	450
Each	2.00	2.15	2.25	2.50

Thermometers, Normal. Filled above mercury with carbon dioxide under pressure of 18 to 20 atmospheres. Made of Jena boro-silicate glass 59111. (See illustration, page 379.)

16966. Scale 180° to 550° C., graduated in degrees. Each \$10.00

16968. Scale 0 to 550° C., graduated every 5 degrees. Each \$9.50

16970. Thermometer, Chemical. For high temperatures. Filled with carbon dioxide. Calibrated and graduated with greatest accuracy. With Fahrenheit scale etched on stem, and white background.

Length, mm.	400	450
Scale	212° to 750°	212° to 1000°
Graduated	two degree divisions	five degree divisions
Each	4.00	11.35

Thermometer, Chemical. Scale etched on stem; white enameled back. Filled above the mercury column with nitrogen, thus preventing the separation of the mercury when the thermometer is used at high temperatures.

16972. Centigrade scale, 0 to 400° in degrees. Each \$3.35

16974. Fahrenheit scale, 0 to 750° in degrees. Each \$3.35

16976. Thermometer, Chemical. Made of Jena boro-silicate glass and carefully calibrated. Centigrade scale etched on stem.

Scale	0 to 100°	100° to 200°	0 to 100°	100 to 200°
Graduated	1/5°	1/5°	1/10°	1/10°
Each	4.00	4.00	4.75	4.75

Thermometers, Anschuetz'. Made of Jena Normal glass, especially recommended for distillation. Length 120 to 150 mm.; diameter 6 mm. In set of seven thermometers of following Centigrade graduations:—10° to + 60°, 40° to 110°, 90° to 160°, 140° to 220°, 210° to 260°, 250° to 320°, 300° to 360°. Supplied in leather case.

16978. Set as above described, graduated in degrees. Each \$21.50

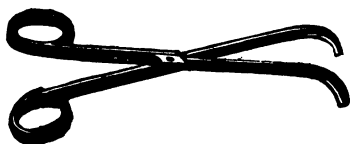
16980. Set as above described, graduated in 1/2°. Each \$27.00

16982. Set as above described, graduated in 1/5°. Each \$32.50



17004

16984. **Thermometers, Beckmann's.** For freezing point determination. Each \$18.00
16986. **Thermometers, Beckmann's.** For boiling point determination; old form. Each \$18.00
16988. **Thermometers, Beckmann's.** For boiling point determination; new form. Each \$18.00
16990. **Thermometer, Chemical.** With stem bent at right angles to scale. This thermometer is well adapted to taking the temperature of trees. Graduated from -20° to $+90^{\circ}$ C. Length: stem 150 mm.; scale, 250 mm. Each \$0.75
16992. **Thermometer, Dairy.** Graduated from -10° to $+160^{\circ}$ F., with special marked temperatures for testing milk. Length, 200 mm. (See illustration, page 379.) Each \$0.35
16994. **Thermometer, Earth.** Mounted in wooden frame with metal point. For use in soil testing. Length, 400 mm. (See illustration, page 379.) Each \$1.50
16996. **Thermometers, Incubator.** Of the best quality Normal glass; with milk-glass scale. The standard temperature $37\frac{1}{2}^{\circ}$ at which incubators are ordinarily operated is indicated by a red line. (See illustration, page 379.)
- | | | |
|-------------------|-------------------|------------------------------|
| Length, mm. | 450 | 500 |
| Scale, Centigrade | 0 to 50° | 10° to 60° |
| Graduated, | $1/5^{\circ}$ | $1/10^{\circ}$ |
| Each | 4.50 | 5.50 |
16998. **Thermometer, Incubator.** Short form; for hanging inside the incubating chamber. The thermometer is enclosed in a metal case with perforated outer sheath which turns so as to entirely enclose the thermometer. Graduated from 0 to 50° Centigrade. Each \$1.00
17000. **Thermometer, Incubator.** With very distinct graduations on a white background, so as to be readily seen at a distance. Graduated from 0 to 50° Centigrade. The standard temperature, $37\frac{1}{2}^{\circ}$, at which incubators are ordinarily operated is indicated by a red line. Length, 250 mm. (See illustration, page 379.) Each \$2.25



17014, 17016



17018, 17020

- 17002. Thermometer, Incubator.** Self-registering maximum and minimum on Sixe's system. With milk-glass scales, 160 mm. long, graduated from -20° to $+50^{\circ}$ Centigrade. The standard temperature, $37\frac{1}{2}^{\circ}$, at which incubators are ordinarily operated is indicated by a red line. The lower part, for insertion in the tubulature of the incubator is 200 mm. long. Complete with horseshoe magnet for read-bator is 200 mm. long. Complete with horseshoe magnet for re-adjusting the indicators. (See page 379.) **Each \$5.00**

- 17004. Thermometers.** Set of maximum and minimum registering each tube mounted on separate plate attached to polished board by means of thumb-screws so that thermometer may be reset as shown in illustration. Complete with directions. (See page 381.) **Each \$3.00**

Thermometers for high temperatures. See PYROMETERS.

Thermometer, Tree. See No. 16990.

- 17006. Thermometer Tubes.** Air thermometers.

Diameter of bulb, mm.	37	50	65
Each	.25	.30	.40

Thermo-regulators. See GAS REGULATORS.

- 17008. Thumb Tacks.** Of one piece of steel. **Per hundred \$1.00**

- 17009. Tiles.** Of porcelain. Size, 150 x 150 mm.
- | | |
|---------------------|--------------------|
| A. White; glazed. | Each \$0.25 |
| B. Black; glazed. | Each \$0.25 |
| C. Black; unglazed. | Each \$0.25 |

Time Regulator. See GAS REGULATOR.

- 17010. Tin Foil.** Chemically pure. **Per 500 grams \$0.90**

- 17012. Tin Foil.** Commercial. **Per 500 grams \$0.45**

- 17013. Tintometer, Lovibond's Patent.** An instrument by means of which the depth of color in liquids and solids can be accurately measured in degrees, placed in their positions in permanent color scale and registered. The apparatus is made in a number of different forms for various purposes. Information and prices quoted on application.

- 17014. Tongs, Crucible.** Brass, polished; single bent.

Length, mm.	200	250	300
Each	.50	.65	.80

- 17016. Tongs, Crucible.** Style No. 17014. Nickel plated.

Length, mm.	200	250	300
Each	.60	.75	.90

- 17018. Tongs, Crucible.** Brass, polished; double bent.

Length, mm.	200	250	300
Each	.55	.70	.90

- 17020. Tongs, Crucible.** Style No. 17018. Nickel plated.

Length, mm.	200	250	300
Each	.65	.80	1.00



17026



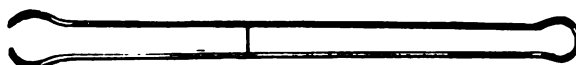
17028



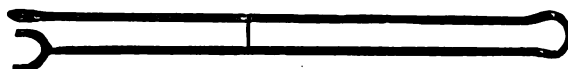
17030



17042



17038



17044

17022. Tongs, Crucible. Forged steel, nickel plated; single bent.

Length, mm.	200	250	300
Each	.40	.45	.50

17024. Tongs, Crucible. Forged steel, nickel plated; double bent.

Length, mm.	200	250	300
Each	.45	.50	.55

17026. Tongs, Crucible. Malleable iron; single bent.

Length, mm.	300	425
Each	.50	.60

17028. Tongs, Crucible. Wrought iron; double bent. Length, 750 mm.

Each \$1.75

17030. Tongs, Crucible. Wrought iron; double bent; for lifting crucibles vertically. Length, 750 mm.

Each \$2.00

17032. Tongs, Crucible. Pure wrought nickel; double bent. Length, 200 mm.

Each \$2.00

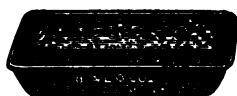
17034. Tongs, Crucible. German silver, nickel plated; single bent.

Each \$1.00

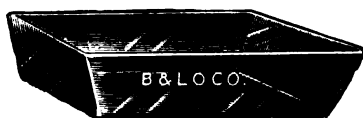
17036. Tongs, Crucible. German silver, nickel plated, double bent.

Each \$1.00

Tongs with Platinum Tips or Shoes. See PLATINUM WARE.



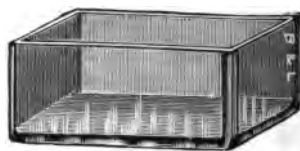
17046



17052



17048



17050

17038. Tongs, Cupel. Steel; with curved ends, and guide pin. Length, 540 mm. (See page 383.) Each \$1.00

17040. Tongs, Cupel. Steel; light; with guide pin.

Length, mm.	500	625	750
Each	1.25	1.25	1.25

17042. Tongs, Scorifier. Malleable iron. Length, 440 mm. Each \$0.90

17044. Tongs, Scorifier. Spring steel. (See page 383.)

Length, mm.	500	630	750	900
Each	1.00	1.00	1.00	1.25

17046. Trays, Agateware. Agate nickel steel; seamless.

Length, mm.	230	260
Width, mm.	155	200
Each	.60	.70

17048. Trays, Agateware. Flint enameled; acid proof; seamless.

Length, mm.	175	225	250	300	350
Width, mm.	125	175	200	250	275
Each	1.50	2.10	2.50	3.60	5.00

17050. Trays, Glass. With vertical sides and polished edges.

Length, mm.	100	115	120
Width, mm.	40	50	60
Height, mm.	40	50	35
Each	.45	.50	.70

17052. Trays, Glass. With slanting sides.

Length, mm.	160	210	260
Width, mm.	130	160	210
Each	.80	1.25	1.90

17054. Trays, Porcelain. Deep form; with pour out.

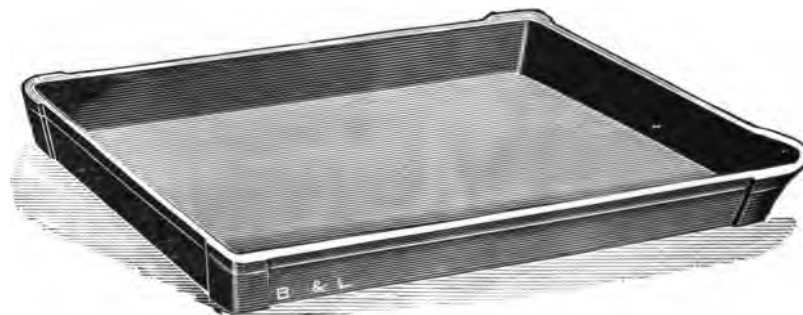
Length, mm.	160	235	265	315
Width, mm.	130	185	210	265
Each	.85	1.85	2.25	3.00

17056. Trays, Genuine Hard Rubber. Superior to the so-called composition trays. With two grooves in bottom.

Length, mm.	145	215	230	265
Width, mm.	110	140	180	215
Each	.40	.75	1.00	1.40



17056



17058

17058. Trays, Standard Hard Rubber. With pour-out. Dull finish. These are the finest rubber trays in the market, and are guaranteed to stand the action of hot water up to a temperature of 180°F.

Length, mm.	135	185	215	230	265
Width, mm.	110	135	140	180	215
Each	.45	.55	.65	.80	1.10

17060. Triangles. Twisted iron wire.

Size	Small	Medium	Large
Per ten	.45	.45	.45

17062. Triangles. Iron wire, covered with pipe-stem.

Size	Small	Medium	Large
Per ten	.60	.60	.60

17064. Triangles. Iron wire, covered with pipe-stem. Flanged so that the vessel rests on three points only, thus increasing the heating surface, saving time and gas. (See illustration, page 386.)

Size	Small	Medium	Large
Per ten	.90	.90	.90

17066. Triangles. Solid nickel.

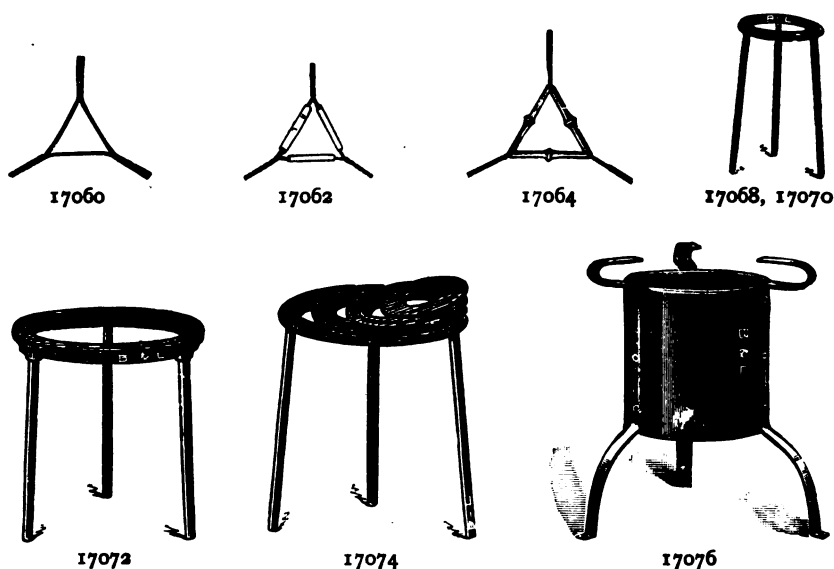
Length of sides, mm.	30	40	50	60	70	80	100
Each	.15	.16	.20	.25	.30	.35	.40

Triangles, Platinum. See PLATINUM WARE.

Triangle Holder. See PLATINUM TRIANGLES.

17068. Tripod. Brass; small size for alcohol lamp.

Each \$0.60



17070. Tripod. Iron; small size for alcohol lamp. **Each \$0.20**

17072. Tripods. Iron; for Bunsen burner; single ring.

Diameter, mm.	70	100	125	150	200	250	300
Each	.25	.25	.25	.30	.35	.45	.75

17074. Tripods. Iron; for supporting water baths, sand baths, retorts, etc.

Diameter, mm.	125	150	200	250	300
Number of rings	2	3	5	6	8
Each	.35	.40	.70	.80	1.40

17076. Tripods. Iron; with metal chimney for protection of flame.

Size	Small	Medium	Large
Each	.50	.65	.80

17078. Troughs, Glass. Heavy. Used as pneumatic troughs.

Length, mm.	250	300	350
Width, mm.	150	200	250
Height, mm.	150	150	160
Each	2.50	3.75	5.00

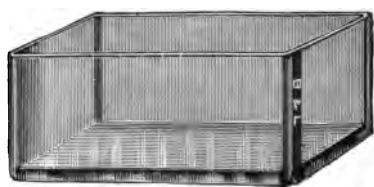
17080. Troughs, Mercury. Of porcelain; cross form, holding 3 kilos. of mercury. **Each \$0.80**

17082. Troughs, Mercury. Of porcelain.

Capacity, kilos.	4	8
Each	1.00	2.00

17084. Troughs, Pneumatic. Of japanned zinc; with sliding shelf, and overflow.

Length, mm.	250	250	300	375	450	400
Width, mm.	175	175	225	275	300	300
Height, mm.	100	125	125	150	200	300
Each	1.15	1.20	1.25	1.45	1.70	2.20



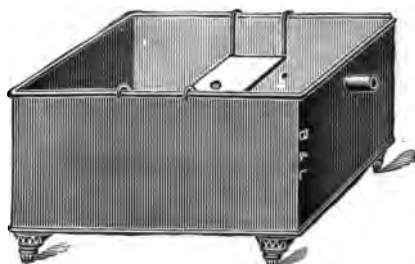
17078



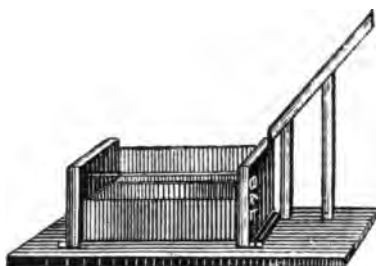
17080



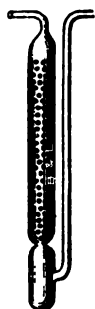
17082



17084



17086



17088



17090



17092



17094

17086. Trough, Pneumatic, Bunsen's. Polished wooden base, glass sides and adjustable support for eudiometers. Each \$13.50

Tubes, Arsenic. See ARSENIC TUBES.

17088. Tube, Absorption, Babo's. For absorption of gases; filled with glass beads. Each \$1.20

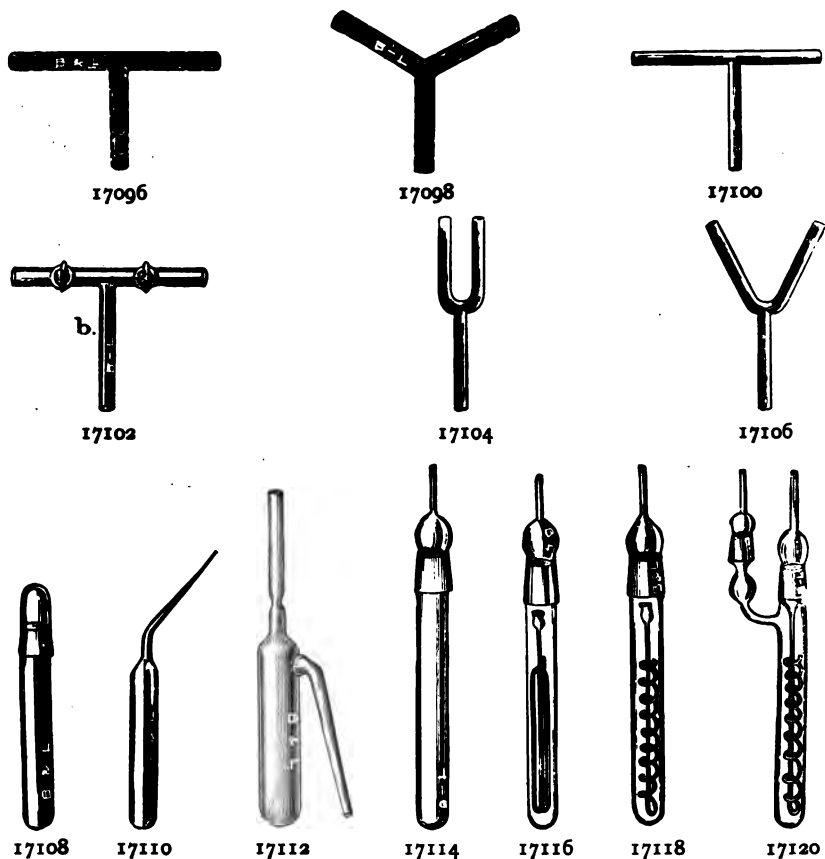
17090. Tube, Absorption, Bunsen's. With pour out; graduated to 250 mm. Each \$0.80

17092. Tube, Absorption, Bunsen's. With retort. Each \$1.00

17094. Tube, Absorption, Emmerling's. For absorption of gases; filled with glass beads. Each \$2.40

Tubes, Calcium Chlorid. See CHLORID CALCIUM TUBES.

Tubes, Condensing. See CONDENSING TUBES.



17096. Tubes, Connecting. Of brass; T-shape.

Bore, mm.	3	5	6	9
Each	.30	.32	.36	.40

17098. Tubes, Connecting. Of brass; Y-shape.

Bore, mm.	3	5	6	9
Each	.30	.32	.36	.40

17100. Tubes, Connecting. Of glass; T-shape.

Bore, mm.	3	6	9	12	18	25
Each	.05	.07	.10	.14	.30	.45

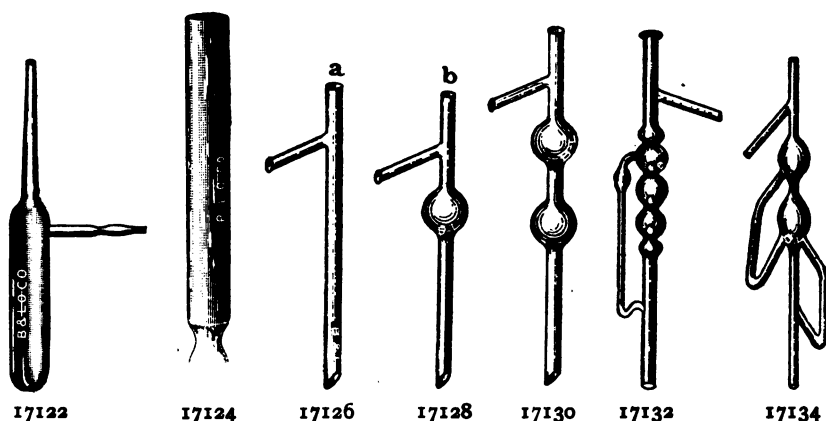
17102. Tube, Connecting. Of glass; T-shape; with two Geissler stop cocks.
Each \$2.25

17104. Tubes, Connecting. Of glass; U-shape.

Bore, mm.	3	6	9	12	18	25
Each	.05	.07	.10	.14	.30	.45

17106. Tubes, Connecting. Of glass; Y-shape.

Bore, mm.	3	6	9	12	18	25
Each	.05	.07	.10	.14	.30	.45



17108. Tubes, Culture. With cap ground on.

Length, mm.	130	155	200
Diameter, mm.	16	20	30
Each	.35	.40	.55

17110. Tube, Culture, Chamberlain's.

Each \$0.20

17112. Tube, Culture, Chamberlain's. Of clear white glass; for blood serum.

Each \$0.35

17114. Tube, Culture, Gayon's.

Each \$0.45

17116. Tube, Culture, Gayon-Dupetit's. With trumpet-form inner tube.

Each \$0.75

17118. Tube, Culture, Gayon-Dupetit's. With spiral-form inner tube.

Each \$0.90

17120. Tube, Culture, Gayon-Dupetit's. With spiral-form inner tube melted in, and side tube.

Each \$1.40

17122. Tube, Culture, Pasteur's. With side neck.

Each \$0.35

17124. Tubes, Culture, Roux'. For potato culture.

Length, mm.	155	200
Diameter, mm.	20	30
Each	.10	.20

17126. Tube, Distilling. For fractional distillation. Plain form.

Each \$0.15

17128. Tube, Distilling. With one bulb.

Each \$0.20

17130. Tube, Distilling. With two bulbs.

Each \$0.25

17132. Tubes, Distilling, Glinsky's. With glass valves.

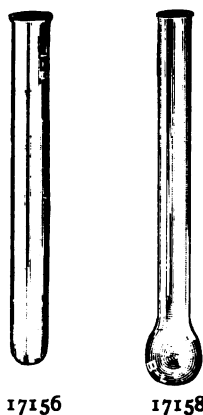
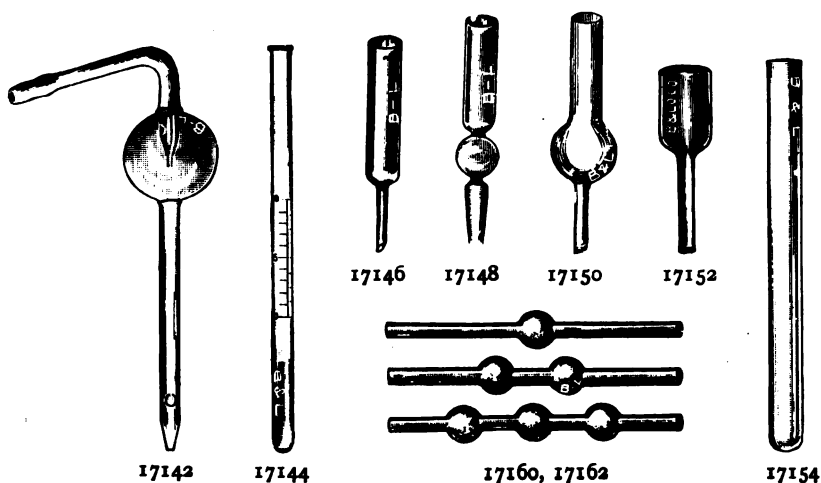
Size,	Small	Medium	Large
Each	1.35	1.70	2.00

17134. Tubes, Distilling, Henninger-Le Bell's. With two bulbs.

Each \$0.80

17136. Tubes, Distilling, Henninger-Le Bell's. With three bulbs.

Each \$1.20

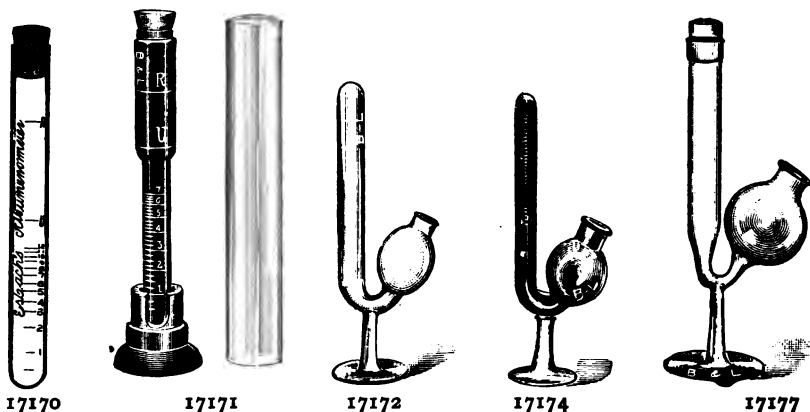


17138. Tubes, Distilling, Henninger-Le Bell's. With four bulbs. Each \$1.50
17140. Tubes, Distilling, Henninger-Le Bell's. With five bulbs. Each \$2.40
17142. Tube, Distilling, Hopkins'. New safety form for rapid work in nitrogen determination. Designed by Prof. C. G. Hopkins. Each \$0.50
17144. Tube, Ether. Graduated; for testing ether. Each \$0.35
17146. Tubes, Filter. For filtering acids through asbestos, glass wool or glass powder.

Length, mm.	150	200	250
Each	.08	.12	.16

17148. Tube, Filter, Fresenius'. With conical outlet. Each \$0.20
17150. Tube, Filter, Fresenius'. With straight outlet. Each \$0.16
17152. Tubes, Filter. For Gooch Crucibles.

Diameter (top), mm.	18	25	28	32
Each	.15	.20	.25	.30



17154. Tubes, Ignition. Test tube form; of very heavy glass; round bottom; without lip.

Length, mm.	100	125	150	180	200
Each	.06	.07	.08	.09	.10

17156. Tubes, Ignition. Hardest Bohemian glass; round bottom; with lip.

Length, mm.	100	125	150	180	200
Each	.10	.12	.16	.18	.20

17158. Tubes, Ignition. Hardest Bohemian glass; with lip, and bulb.

Length, mm.	100	125	150	180	200
Each	.10	.15	.20	.22	.25

17160. Tubes, Ignition. Hardest Bohemian glass.

Number of bulbs,	1	2	3
Each	.20	.30	.35

17162. Tubes, Ignition. Of ordinary glass.

Number of bulbs,	1	2	3
Each	.10	.15	.18

Tubes, Reduction. See REDUCTION TUBES AND ARSENIC TUBES.

Tubes, Safety. See FUNNEL TUBES.

Tubes, Specimen. See BOTTLES AND VIALS.

17164. Tube, Water Analysis. Length, 600 mm. with two glass plates. Can be used like Nessler Jars. **Each \$2.50**

Tubes, Weighing. See BOTTLES, WEIGHING.

Tube Brushes. See BRUSHES.

Tubing. See COMBUSTION T., GLASS T., RUBBER T.

17166. Tumblers. Of clear white glass; good quality; with pour-out. Capacity, 175 cc. **Each \$0.10**

17168. Tumblers. Of clear white glass; good quality. Capacity, 175 cc. **Each \$0.05**

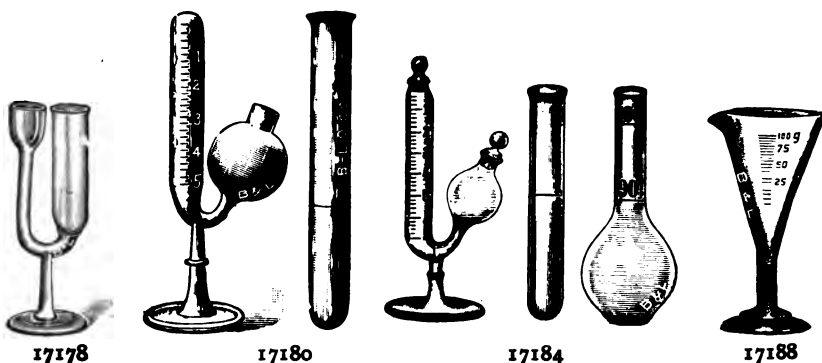
Tweezers. See FORCEPS.

Tubes, Reduction. See REDUCTION TUBES.

URINARY APPARATUS

17170. Albuminometer, Esbach's. For the quantitative determination of albumin in urine. Graduated to read grams of albumin per liter of urine. Complete, with directions, in wooden case. **Each \$0.55**

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



17171. Albuminometer, Esbach-Schelenz'. Each \$0.75

Centrifuges. See CENTRIFUGES.

17172. Fermentation Tubes. Medium size; ungraduated. (See illustration, page 391.) Each \$0.30

17174. Fermentation Tubes. Medium size; graduated. Each \$0.50

17176. Fermentation Tubes. Large size; ungraduated. Each \$0.35

17177. Fermentation Tube. Designed by Dr. H. W. Hills, Boston, Mass. This tube has an open top with ground glass stopper which permits the thorough cleaning of the tube. Capacity of bulb, 50 cc.; of tube, 25 cc. (See illustration, page 391.) Each \$0.60

17178. Horismascope. For the detection of albumin in urine with nitric acid. With this instrument the acid when it comes in contact with the urine is full strength, thus rendering the test much more delicate than as ordinarily applied, 1/60 per cent. of albumin being detectable. Complete with directions for use. Each \$1.25

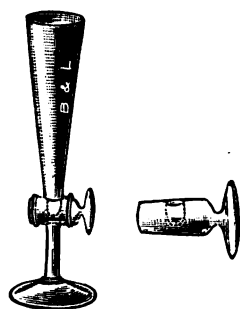
17180. Saccharometer, Einhorn's Fermentation. For the estimation of sugar in urine. Consists of a graduated fermentation tube and a graduated test tube. The percentage of sugar present is read directly on the tube. Complete with directions. Each \$0.65

17182. Saccharometers. Set of two No. 17180, in case with test tube and directions for use. Each \$1.25

17184. Saccharometer, Einhorn-Fiebig's. Consists of a very accurately graduated fermentation tube on glass foot and closed by ground glass stoppers with mixing flask and graduated test tube. Complete with directions for use. Each \$1.50

17186. Sedimentation Glasses. Conical; ungraduated.

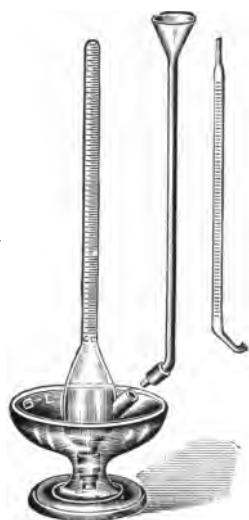
Capacity, cc.	30	60	100
Each	.15	.18	.20



17190



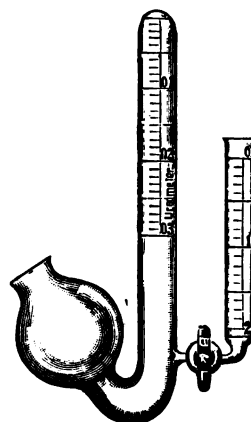
17194



17192



17198



17200

17188. Sedimentation Glasses. Conical; graduated.

Capacity, cc.	30	60	100
Each	.30	.40	.50

Sedimentation Glasses, Large sizes. See TEST GLASSES.

17190. Sedimentation Glass, Spaeth's. With perforated stopper at bottom. This form offers advantages over ordinary forms in that the sediment is collected in the stopper and can be removed with stopper, thus saving the troublesome operation of removing the sediment from the bottom of the glass. It is also much easier to clean than ordinary forms.

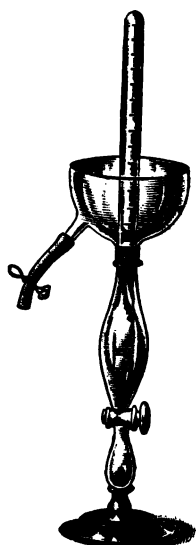
Each \$3.50

17192. Urea Apparatus, Marshall's. On foot.

Each \$3.00

17194. Urea Apparatus, Squibb's. For the quantitative determination of urea in urine by displacement. Furnished with 50 cc. bottle of reagent. Complete with percentage table and directions for use.

Each \$2.00



17204

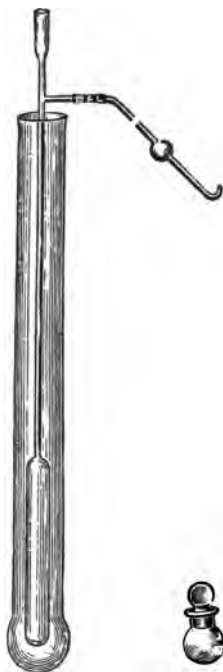


17206



17208

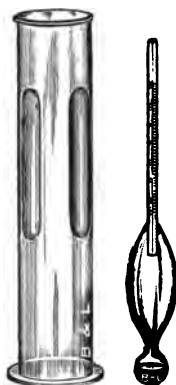
- 17196. Ureometer, Doremus'.** For the rapid, quantitative determination of urea in urine by the hypobromite method. Consists of a graduated pipette for introducing the urine, and a fermentation tube graduated to read to one-tenth per cent. Complete with directions for use. **Each \$0.80**
- 17198. Ureometer, Doremus'.** No. 17196 with glass foot. (See illustration, page 393.) **Each \$1.00**
- 17200. Ureometer, Doremus-Hind's.** This is an improved form having a graduated side tube with glass stop cock from which the exact amount of urine may be introduced into the fermentation tube without any gas escaping from the bulb. Without foot. (See illustration, page 393.) **Each \$2.50**
- 17202. Ureometer, Doremus-Hind's.** Style No. 17200. Fermentation tube with glass foot. **Each \$3.00**
- 17204. Ureometer, Huefner's.** For the quantitative determination of urea in urine by the hypobromite method. Urine is introduced into the lower glass chamber and the upper chamber and eudiometer filled with hypobromite solution. Displacements as large as 20 cc. may be measured on the eudiometer. **Each \$4.50**
- 17206. Urine Cylinder.** Graduated; with ground-on cover. Capacity, 2 liters. **Each \$2.00**
- 17208. Urinometer, Neubauer-Vogel's.** For determining the specific gravity of urine. Set of two, graduated respectively, 1.000 to 1.020 and 1.020 to 1.040. With cylinder. Complete with directions. **Each \$1.00**



17214-17218



17224



17210



17220



17222

- 17210. Urinometer, Squibb's.** For determining the specific gravity of urine. Graduated from 1.000 to 1.060. Length, 120 mm. Furnished in case with cylinder and directions for use but without thermometer. **Each \$0.75**
- 17212. Urinometer, Squibb's.** Complete as above described, with thermometer. **Each \$1.50**
- 17214. Vapor Density Apparatus, Victor Meyer's.** Improved form. Complete. **Each \$2.00**
- 17216. Vapor Density Apparatus, Victor Meyer's.** Inner tube only, for No. 17214. **Each \$1.00**
- 17218. Vapor Density Apparatus, Victor Meyer's.** Outer bath only, for No. 17214. **Each \$1.00**
- 17220. Vapor Density Apparatus, Victor Meyer's.** Glass bottle with ground glass stopper for No. 17214. **Each \$0.10**

17222. Vials. Glass stoppered.	Capacity, cc.	2	3	4	6	8
	Per ten	.55	.55	.60	.75	.90
17224. Vials. Glass stoppered.	Flat bottom; with neck.					
	Height, mm.	50	65	80	80	
	Diameter, mm.	16	18	20	25	
	Each	.12	.15	.18	.20	



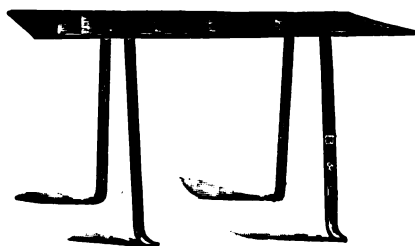
17226, 17228



17230



17232, 17234



17236

17226. Vials. Homoeopathic. Long form; with neck and flat bottom and cork stopper.

Capacity, drachms	1	2	3	4	6	8
Per hundred	.90	1.00	1.30	2.00	2.50	3.10

17228. Vials, Homoeopathic. Short form; with neck and flat bottom, and cork stopper.

Capacity, drachms	1	2	3	4	6	8
Per hundred	.90	1.00	1.30	2.00	2.50	3.10

17230. Vials, Homoeopathic. Short form; with neck and flat bottom, and cork-lined metal screw-cap.

Capacity, drachms	1	2	3	4	6	8
Per hundred	1.65	2.00	2.20	2.75	4.35	5.75

17232. Vials, Tube Form. Clear white glass; with flat bottom and cork stopper.

Height, mm.	25	35	40	50	60	70
Diameter, mm.	8	8	10	12	13	15
Per hundred	.85	.80	.85	.85	.85	1.00
Height, mm.	80	50	60	70	80	
Diameter, mm.	16	25	25	25	25	
Per hundred	1.25	2.30	2.50	.275	3.00	

17234. Vials, Tube Form. Amber glass; with flat bottom and cork stopper.

Height, mm.	28	35	45	55	65	65	95	77
Diameter, mm.	8	8	10	12	14	18	18	26
Per hundred	.90	.90	1.00	1.00	1.15	1.65	1.90	3.75

Vials. Any other size or style to order.

Viscosimeters. See OIL TESTING APPARATUS.

Vises. See ANVILS.

17236. Warming Table. Designed by Prof. Carl Huber. For fixing blood preparations to be stained by the Ehrlich method, also for fixing sections to slides, drying, mounting, etc. The top is of copper, with rounded edges; the legs are removable. Height, 200 mm.; length, 390 mm.; width, 100 mm. **Each \$0.85**

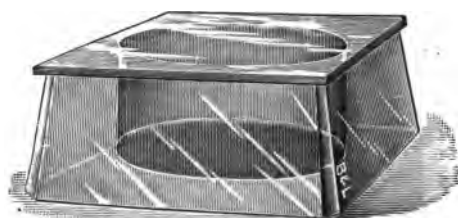
Washing Bottles. See BOTTLES.



17238



17240



17244-17250



17252, 17254

17238. Watch Glass. With concave center and a small facet on the bottom.

Diameter, 45 mm.

Per ten \$0.50

17240. Watch Glasses. Thin, concave, German form.

Diameter, mm.	25	30	35	40	50	65	75	85
Per ten	.20	.20	.20	.20	.20	.45	.45	.65
Diameter, mm.	100	115	125	140	150	165	175	200
Per ten	.65	1.25	1.45	1.75	2.00	2.40	2.65	2.80

17242. Watch Glasses. In pairs; accurately ground.

Diameter, mm. 50 65

Per set of two .15 .25

17244. Watch Glass. Square form; with cover. One vertical surface ground for writing upon.

Per ten \$0.50

17246. Watch Glass. Same as No. 17244, cut and polished.

Per ten \$1.25

17248. Watch Glass. Square form; of black glass; with cover.

Each \$0.20

17250. Watch Glass, Embryological. Designed by Prof. George LeFevre. Especially adapted to imbedding loose, minute objects. See Journal of Applied Microscopy and Laboratory Methods, Vol. V., No. 12, page 2080.

Each \$0.20

17252. Watch Glass, Syracuse Solid. Improved form. The improved Syracuse Watch Glass is of the most convenient form to be handled with the least danger of dropping, and will stand more hard usage without breaking or chipping than any other form. The bottom surfaces are parallel, making it possible to examine objects in the glass without distortion, at the same time the slight curvature around the inside of the bottom permits the easy use of the section lifter. The flange around the bottom permits the glasses being securely stacked.

Per ten \$0.50

17254. Watch Glass, Syracuse Solid. Improved form; with ground beveled surface for writing upon.

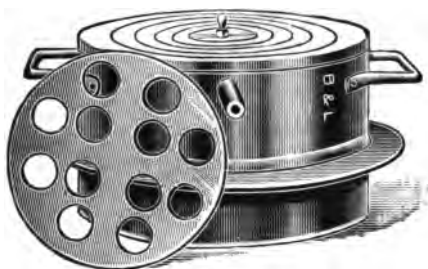
Per ten \$0.65



17258



17260



17262



17266

Watch Glasses, Balance. See **BALANCE WATCH GLASSES.**

Watch Glass Clamps. See **CLAMPS.**

17256. Watch Springs. For burning in oxygen. **Per ten \$0.20**

17258. Water Baths, Agateware. Enameled iron; with copper concentric rings.

Diameter, mm.	165	200	250
Each	2.25	3.00	4.25

17260. Water Bath. With test tube rack; as used by Dr. Blair in iron analysis. Made of polished copper. Diameter, 175 mm. **Each \$3.00**

17262. Water Baths. Made of polished copper, tin lined. With cover, steam escape, copper concentric rings, and perforated plate for test tubes.

Diameter, mm.	125	150	200
Each	1.15	1.50	2.25

17264. Water Baths. Constant water level for above water baths.

Each Extra to Above \$0.50

17266. Water Baths. Made of heavy copper tin lined. Hemispherical form; with concentric rings, cover, and steam escape.

Diameter, mm.	100	125	140	150	200	250
Each	.80	.95	1.10	1.25	1.90	3.75

17268. Water Baths. With constant water level.

Diameter, mm.	100	125	140	150	200	250
Each	1.30	1.45	1.60	1.75	2.40	4.25

17270. Water Baths. Made of cast iron, heavily enameled inside. Cylindrical form; with two handles and copper concentric rings.

Diameter, mm.	120	150	180	200	240
Each	1.50	2.25	2.75	3.00	4.60



17268



17274



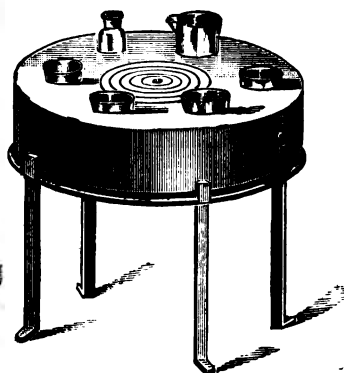
17272



17270



17276



17278

17272. Water Baths. Funnel form, with constant water level.

Diameter, mm.	150	200
Each	5.25	6.50

17274. Water Bath. Made of pure nickel; with four rings. Diameter, 180 mm.; capacity, 2 liters. **Each \$6.50**

17276. Water Bath, Griffin's. For hot filtration and evaporation. Tin lined; with copper funnel, four concentric rings, and cover. Provided with constant water level, extra sheet iron bottom, and rests on four detachable legs. Size, 330 x 180 x 130 mm.; opening, 125 mm. diameter. **Each \$10.00**

17278. Water Bath. Combination; low, circular form. Made of heavy copper; on heavy, iron, removable base. Has six small openings, each 80 mm. diameter, and one large opening in center, 150 mm. diame-



17280, 17282



17284, 17286

ter. All openings are provided with copper concentric rings. Height, 100 mm.; diameter, 400 mm. **Each \$15.00**

17280. Water Bath. Made of highly polished copper, tin lined; with brass stop cock. For evaporation. Provided with constant water level attachment, extra sheet iron bottom, and four detachable legs. Has seven openings, of which three are 150 mm. diameter, with five copper concentric rings and cover, and four are 100 mm. diameter, with three rings and cover. Size, 580 x 340 x 130 mm. **Each \$17.00**

17282. Water Bath. Arranged with coil for heating with steam. **Each \$21.00**

17284. Water Bath. Same as No. 17280, but with four openings, each 125 mm. diameter. Size, 340 x 340 x 130 mm. **Each \$13.00**

17286. Water Bath. No. 17284 arranged with coil for heating with steam. **Each \$16.50**

17288. Water Bath, Laboratory. Made of heavy copper, with extra sheet iron bottom to prevent burning out, and enclosed base of sheet iron which serves to retain the heat of the burner and aids in maintaining uniform temperature. There are ten large cups, seven deep and three shallow, and five glass vials in which embedding, infiltration, digestion, etc., may be performed. Water gauge and tubula-



17288, 17290

tures for thermometer and gas regulator are provided. The water chamber is 320 mm. diameter, and 90 mm. deep. Although intended for gas heating, this bath may also be satisfactorily warmed with a small lamp. Bath only. **Each \$16.00**

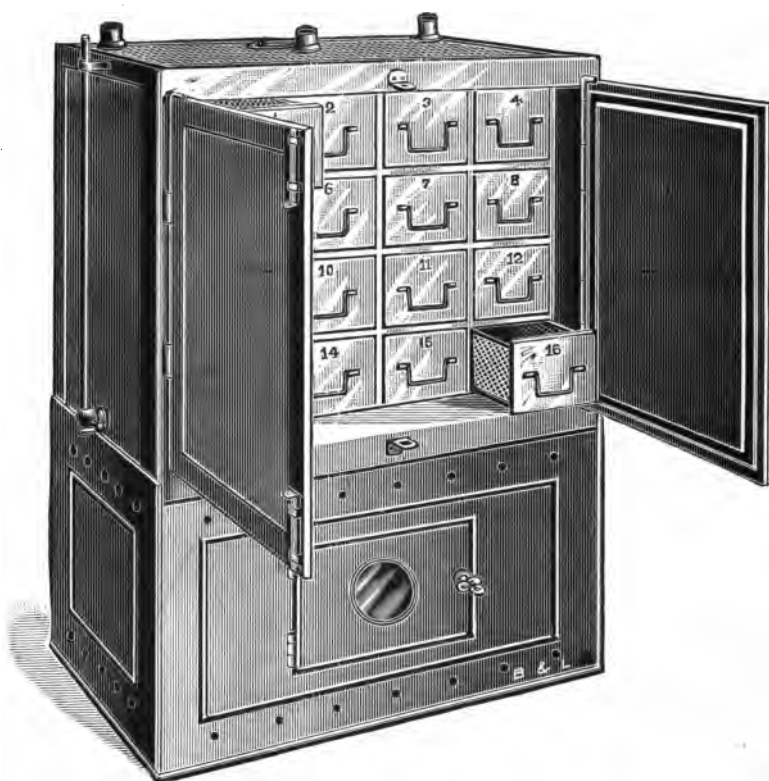
17290. Water Bath, Laboratory. Style No. 17288. Complete with thermometer, gas regulator, burner, and asbestos mat. **Each \$18.50**

17292. Water Bath, Lillie's. This bath is made of heavy copper throughout, coated with a non-conducting, water-proof material which protects the metal and is easily cleaned. It is supported on a stout wrought iron frame enclosed with sheet iron (not shown in illustration). The bath consists of a large chamber containing a series of drawers of equal size, 250 mm. long, 100 mm. wide, 80 mm. deep. Each drawer has copper front and bottom, the sides and back being perforated zinc, securing free circulation of warm air. The drawers are separated by perforated cross partitions, and run on slides free from the lateral supports, thus permitting sufficient circulation of warm air to secure equal temperature in the top and bottom of the bath. Water gauge and tubulatures for gas regulator, and thermometer are provided. This bath is especially adapted to class work, since each student may carry on his work in a separate drawer. Furnished complete with gas regulator, thermometer, and burner. (See illustration, page 402.)

Number of tiers	2	4	6
Number of trays	8	16	24
Width (inside dimen.), mm.	230	460	670
Each	65.00	85.00	112.00

17294. Water Baths, Lillie's. Oil Heater for. This heater consists of a heavy copper reservoir containing sufficient oil to last for several days, and a large burner with metal chimney. A perforated false top forms a safety air chamber above the oil reservoir and prevents heating of the oil. This heater will maintain a sufficiently uniform temperature for the most delicate embedding work.

Each \$4.00



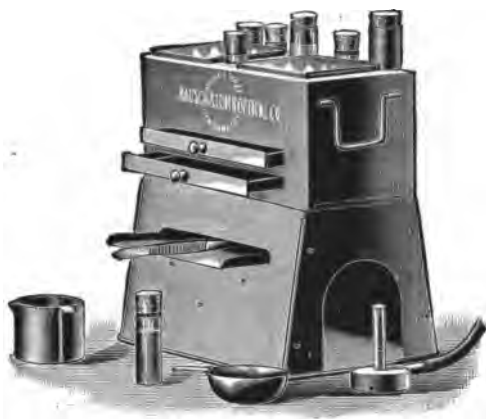
17292

17296. Water Bath, Mabon's Combination. Designed by Dr. William Mabon. This is a convenient water bath designed with the view of economizing both space and heat. It is 380 mm. long, 180 mm. wide, and 130 mm. deep; is made of copper, tin lined, and stands upon an iron frame, 200 mm. high, enclosed with sheet iron (not shown in illustration). The bottom where it is exposed to the flame has an extra covering of sheet iron, easily removable. On the top is a tubulature for filling, and one for the thermometer. There are two sets of concentric rings, five in each set, giving openings of 25 to 150 mm. diameter, and a plate with twenty-two holes for medium size test tubes. Bath only. **Each \$10.00**

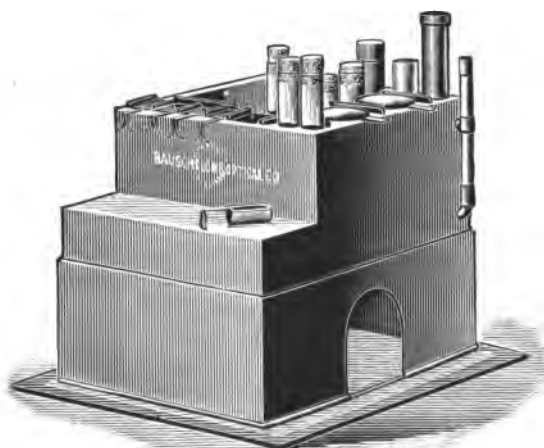
17300. Water Bath, Miller's. This is an improved form of paraffin bath designed especially for histological work. It is made of polished copper with extra sheet iron bottom to prevent burning out, and enclosed base of sheet iron. The water chamber measures 200 mm. long, 100 mm. wide, and 100 mm. deep. There are two cups, one watch glass shape; five glass vials, of two sizes; two drawers, holding six slides each, which are especially valuable in protecting slides from dust, and may also be used for "watch glass" imbedding, and a shelf on which instruments may be warmed. Bath only. **Each \$13.50**



17296



17300, 17302

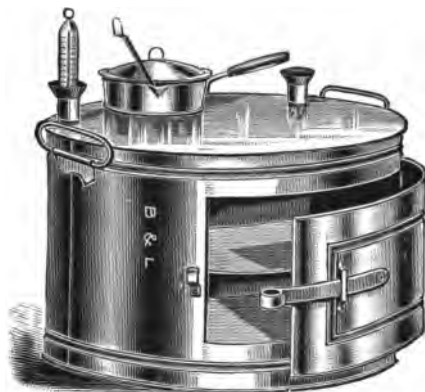


17304, 17306

New York, Boston, Chicago, U. S. A., Frankfurt a/M., Germany.



17306, 17310



17312, 17314

- 17302. Water Bath, Miller's.** Complete with gas regulator, thermometer, burner, and asbestos mat. (See page 403.) **Each \$17.00**
- 17304. Water Bath, Naples.** The Naples Water Bath is a complete apparatus for the most delicate work: paraffin imbedding, digestion, preparation of culture media, etc. It is made of heavy copper throughout, with extra false bottom to protect the copper from the flame, and with enclosed base of sheet iron. There are two large cups for stock paraffin; five imbedding pans each with glass cover and support to prevent overturning; three large, and three small vials. An imbedding chamber 140 x 100 mm., with tube for thermometer and with glass cover permits the use of watch glasses or vials for imbedding or for digestion experiments. There is a drying chamber under the imbedding chamber, which opens at the side of the bath. A warming table, 230 x 70 mm., in front of the bath is very useful for keeping imbedding boxes warm, drying mounts, fixing objects to slides, etc. Bath only. (See page 403.) **Each \$17.50**
- 17306. Water Bath, Naples.** Complete, with thermometer, gas regulator, burner and asbestos mat. **Each \$21.00**



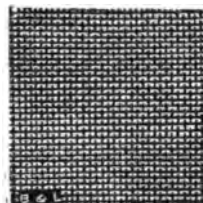
17316



17320



17327, 17340



17342-17350

- 17308. Water Bath, Simple.** This is a very useful bath for physicians or others who have only a small amount of imbedding to do. It is made of polished copper, tin lined, and has an extra sheet iron bottom and an enclosed base of sheet iron. There are two imbedding cups, three infiltration vials, and a shelf for watch glass imbedding and for warming instruments. The cups, one deep and the other watch glass shape, have handles and glass covers. Tubulatures for thermometer and gas regulator are provided. The dimensions of the bath are: 180 mm. long, 90 mm. wide, and 90 mm. deep; base, 200 mm. high. Bath only. **Each \$7.00**
- 17310. Water Bath, Simple.** Complete, with thermometer, gas regulator, burner and asbestos mat. (See page 404.) **Each \$10.50**
- 17312. Water Bath and Drying Oven, Reeves'.** This is a combination bath and oven made of extra heavy copper with enclosed sheet iron base (not shown in illustration). It has a stock paraffin cup of 500 cc. capacity, with handle, cover, and object lifter. The drying oven has removable shelf. Tubulatures for thermometer and gas regulator are provided. Outside dimensions: 220 mm. high (without base), 260 mm. diameter; oven, 170 mm. wide, 130 mm. high, 150 mm. deep. Bath only. (See page 404.) **Each \$12.50**
- 17314. Water Bath and Drying Oven, Reeves'.** Complete with thermometer, gas regulator, burner, and asbestos mat. **Each \$15.50**
Water Decomposition Apparatus. See LECTURE APPARATUS.
- 17316. Water Hammer.** Single. **Each \$0.60**
- 17318. Water Hammer.** Double. **Each \$1.00**
Water Heaters. See BURNERS.
- 17320. Water Sampling Apparatus, Esmarch's.** Consists of a glass bottle in a metal frame with parts so arranged that when the apparatus is lowered to desired depth the stopper is removed, whereupon the bottle fills, after which the stopper is replaced. **Each \$7.50**
- 17322. Wax, Bees'.** Pure; in cakes. **Per 450 grams (1 lb.) \$0.60**
- 17324. Wax, Sealing.** First quality, in sticks. **Per 450 grams (1 lb.) \$0.80**

17326. **Wax, Sealing.** Second quality, in sticks. Per 450 grams (1 lb.) \$0.35

Weighing Bottles and Tubes. See BOTTLES.

Weights. See BALANCE WEIGHTS.

Wicks. See LAMP WICKING.

17327. **Wire, Aluminum.** Price on application.

17328. **Wire, Brass.**

Gauge, B. & S.	16	18	20	22	24	26	28	30	32	34	36
----------------	----	----	----	----	----	----	----	----	----	----	----

¼ lb. spools, per spool	.14	.14	.15	.15	.16	.18	.22	.24	.30	.34	.40
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17330. **Wire, Copper.**

Gauge, B. & S.	16	18	20	22	24	26	28	30	32	34	36
----------------	----	----	----	----	----	----	----	----	----	----	----

¼ lb. spools, per spool	.15	.15	.16	.16	.18	.20	.24	.28	.34	.44	.68
-------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Wire, Copper. Insulated; cotton covered; for connecting electrical apparatus. Prices per pound.

Gauge, B. & S.	20	22	24	26	28	30	32	34	36
----------------	----	----	----	----	----	----	----	----	----

17332. Single covered. Net .68 .76 .90 1.10 1.35 1.65 1.95 2.85 4.37

17333. Double covered. Net .74 .94 1.14 1.38 1.69 2.07 2.28 3.42 4.93

Wire, Copper. Insulated; silk covered. Prices per pound.

Gauge, B. & S.	16	18	20	22	24	26
----------------	----	----	----	----	----	----

17334. Single covered. Net 1.12 1.15 1.18 1.30 1.56 2.10

17335. Double covered. Net 1.53 1.57 1.61 1.76 2.13 2.88

Gauge, B. & S.	28	30	32	34	36
----------------	----	----	----	----	----

Single covered. Net	2.38	2.95	3.45	4.10	7.00
---------------------	------	------	------	------	------

Double covered. Net	3.23	4.02	4.53	5.30	8.88
---------------------	------	------	------	------	------

17336. **Wire, German Silver.** Price on application.

17338. **Wire, Iron.** Chemically pure; for standardizing.

Per 470 grams \$1.20

17340. **Wire, Nickel.** Per 25 grams \$0.20 Per 470 grams \$3.00

Wire, Platinum. See PLATINUM WARE.

Wire Gauge. See MEASURE.

17342. **Wire Gauze, Brass.** For general use.

Mesh	10	20	30	40	60	80	100
------	----	----	----	----	----	----	-----

Per 30 cm. square	.50	.50	.60	.65	.70	1.00	1.45
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17344. **Wire Gauze, Brass.** Of correct thickness and mesh for heating beakers, dishes, etc., over flame. In squares.

Size, mm.	75	100	125	150	200
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Per 10 pieces	.50	1.00	1.30	2.20	3.00
---------------	-----	------	------	------	------

17346. **Wire Gauze, Copper.** For combustion.

Mesh	20	40	60	80	100
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Per 30 cm. square	.50	.60	.70	1.00	1.45
-------------------	-----	-----	-----	------	------

17348. Wire Gauze, Iron.

Mesh	6	10	14	16	20	30	40	50
Per 30 cm. square	.20	.25	.28	.30	.30	.35	.45	.70

17350. Wire Gauze, Iron. For supporting dishes, etc. In squares.

Size, mm.	75	100	125	150	175	200
Per 10 pieces	.25	.50	.65	.80	1.30	1.70

17352. Wire Gauge, Iron. With asbestos center. For supporting dishes, etc. In squares.

Size, mm.	100	120	150
Per ten pieces	.12	.15	.20

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